

12D-1.2

BOOK NO. 047

CONTRACT NO. 68654

FILE NO. 1805

MT. ELLIOTT PARK

Seawall Edge

PHASE ONE

CITY OF DETROIT
Coleman A. Young, Mayor

CITY OF DETROIT
RECREATION DEPARTMENT
Landscape Design Unit
735 Randolph Street, Room 2001
Detroit, Michigan 48226

Prepared By:

SCHERVISH VOGEL MERZ, P. C.
Architects/Landscape Architects/Planners
311 E. Grand River
Detroit, Michigan 48226

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Southfield, Michigan 48034

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Michigan 48226

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Detroit, Michigan 48226

SB
482
.M52
D53
1991
phase 1

SB482.M52.D53 1991 phase 1

ADDENDUM No. 2

July 10, 1991

RE: Mt. Elliott Park
Seawall Edge - Phase One

FROM: Schervish Vogel Merz, P.C.
Architects, Landscape Architects, Planners
311 East Grand River
Detroit, Michigan 48226
(313) 965-3100

This Addendum forms a part of the construction bid documents and modifies the original drawings and specifications dated July 8, 1991 as follows:

ADVERTISEMENT: PREBID CONFERENCE

The prebid conference will be held on Tuesday July 16, 1991 at 2pm. The location remains the same as indicated in the advertisement for bids, 203 Mt. Elliott, Detroit Michigan.

*** END OF ADDENDUM NO. 2 ***

This document was prepared in part through financial assistance provided by the Office of Ocean and Coastal Resource Management, National Oceanic and Atmospheric Administration authorized by the Coastal Zone Management Act of 1972.

**US Department of Commerce
NOAA Coastal Services Center Library
2234 South Hobson Avenue
Charleston, SC 29405-2413**

SVM-8801
Mt. Elliott Park

Page 1 of 1

ADDENDUM NO. 1

June 25, 1991

RE: Mt. Elliott Park
Seawall Edge - Phase One

FROM: Schervish Vogel Merz, P.C.
Architects, Landscape Architects, Planners
311 East Grand River
Detroit, Michigan 48226
(313) 965-3100

This Addendum forms a part of the construction bid documents and modifies the original Drawings dated _____, 1991 and Specifications dated _____, 1991 as follows:

Part III: Drawings

S-2 Structural Steel Details

1. Detail 10-Concrete Spandrel on Existing Concrete Seawall:
Delete 6" diameter by 3" deep keys at 4' - 0" O.C. and substitute with 8" diameter by 3" deep keys at 3' - 0" O.C.

*** END OF ADDENDUM NO. 1 ***

**PROJECT MANUAL
FOR THE CONSTRUCTION OF
MT. ELLIOTT PARK
DETROIT, MICHIGAN**

**CITY OF DETROIT
RECREATION DEPARTMENT
LANDSCAPE DESIGN UNIT
735 RANDOLPH STREET, ROOM 2001
DETROIT, MICHIGAN 48226
(313) 224-1145**

**DANIEL H. KRICHBAUM
DIRECTOR**

**SCHERVISH VOGEL MERZ, P.C.
ARCHITECTS/LANDSCAPE ARCHITECTS/PLANNERS
311 E. GRAND RIVER
DETROIT, MICHIGAN 48226
(313) 965-3100**

**NTH CONSULTANTS, LTD.
65 CADILLAC SQUARE, SUITE 2223
DETROIT, MICHIGAN 48226
(313) 965-0036**

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29580 NORTHWESTERN, SUITE 100
SOUTHFIELD, MICHIGAN 48034
(313) 356-1210**

**CHARLES S. DAVIS & ASSOCIATES
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DETROIT, MICHIGAN 48226
(313) 963-7565**

TABLE OF CONTENTS

PART I: CONTRACT FORMS

Advertisement	AD.1-AD.2
Special Conditions	SC.1-SC.4
Proposal - Part I	PROPOSAL BID FORMS
(a)	Lump Sum Bid P1-1, P1-2,P1-3, P1-4
(b)	Unit Price Bids P1-5, P1-6, P1-7
(c)	Alternates P1-8,P1-9
(d)	Contractors Qualifications Statement P1-10, P1-11
(e)	Contractor's Qualifications Statement AIA305 1986:1 thru 6
Proposal - Part II	CONDITIONS P.2-P.3
Proposal - Part III	NAMES, ADDRESS, LEGAL STATUS, AND SIGNATURE OF BIDDER P.4-P.5
Special Notice to Bidders	SNB.1-SNB.14
Standard Instructions to Bidders	1-11
General Conditions	1-30
Appendix D	MBE Subcontractor Data
Appendix E	Executive Order 22
Appendix F	Non-Collusion Affidavits
Appendix G	City of Detroit Human Rights Forms
Appendix H	Acknowledgement
Appendix I	Sole Proprietor Acknowledgement
Appendix J	Resolution of Corporate Authority
Appendix K	Certificate of Partnership Authority
Appendix L	City of Detroit Ordinance No. 29 -90
Irrevocable Bank Letter of Credit	
Bid Bond	
Performance Bond	
Payment Bond	

SVM-8001
Mt. Elliott Park

TC-2

Agreement

- | | | |
|----|---|------|
| 1. | The Contract | A. 1 |
| 2. | Work Included | |
| 3. | Time Provisions | |
| 4. | Liquidate Damages | |
| 5. | The Contract Price | A. 2 |
| 6. | Detailed Estimate | |
| 7. | Progress Payments | |
| 8. | Acceptance and Final Payment | |
| | A. Contractor's Notification of Completion | |
| | B. Contractor's Affidavits and Guarantees | |
| | C. Verified Statement of Claims | |
| | D. Engineer's Inspection and Final Estimate | A. 3 |
| | E. Approval of Final Payment | |
| | F. Acceptance of Final Payment | |
| | G. Substantial Completion Payment | |

Agreement Signature Page

A. 4

TABLE OF CONTENTS

PART II: GENERAL REQUIREMENTS AND TECHNICAL SPECIFICATIONS

Division One: General Requirements

<u>Section</u>	<u>Title</u>
01010	Summary of Work
01100	Alternates
01200	Project Meetings
01300	Submittals
01500	Temp Facilities and Temporary Controls
01533	Tree Protection
01700	Project Closeout General Specifications

Division Two: Technical Specifications

<u>Section</u>	<u>Title</u>
02010	Subsurface Conditions
02100	Clearing and Demolition
02200	Earthwork
02360	Driven Piling
02500	Site Utilities
02930	Seeding
03300	Concrete Work and Reinforcement
05100	Structural Metal Framing
05313	Steel Floor Deck
05500	Metal Fabrication
09900	Painting

TABLE OF CONTENTS

PART III: DRAWINGS

Contract Drawings

Drawings included within this Table of Contents are contained under separate cover

<u>Sheet No.</u>	<u>Title</u>
	Cover Sheet and Drawing List
L1	General Development Plan
L2	Survey
L3	Survey
L4	Survey
SC1	Site Cleaning & Erosion Control Plan
L5	Seawall & Walkway Layout & Grading
L6	Seawall & Walkway Layout & Grading
L7	Details
S1	Structural Steel Layout
S2	Structural Steel Details

PART I: CONTRACT FORMS

ADVERTISEMENT

**MT. ELLIOTT PARK
SITE WORK
RECREATION DEPARTMENT
CITY OF DETROIT, MICHIGAN
FILE NO. 1805**

Sealed proposal for a lump sum bid from **QUALIFIED CONTRACTORS ONLY** to complete Site Work at Mt. Elliott Park located in the City of Detroit at the foot of Mt Elliott Street, at the Detroit River, east of the Coast Guard property, south of Wight Street will be received at the Finance Department, Purchasing Division, 912 City-County Building, Detroit, Michigan 48226, until 2:00 pm, Detroit time, on **Wed. July 31, 1991**, at which time all bids will be publicly opened and read aloud.

A minimum of 20% of the total contract amount shall be subcontracted to Minority Business Enterprises (MBE) who have obtained certification from the Contract Compliance Division (CCD) prior to the time of the bid opening.

The Contractor must ensure that employees and applicants for employment are not discriminated against because of race, creed, color or national origin.

In accordance with Executive order No. 22, worker hours on any construction project funded in whole or in part by city, state, or federal funds shall be performed by not less than 50% Detroit residents, not less than 25% minorities and at least 5% women. Where possible, these percentages shall be applied on craft-by-craft basis. For purposes of Executive Order No. 22, worker hours shall include work performed by persons filling apprenticeship and on-the-job training positions.

DESCRIPTION OF WORK

The work consists of furnishing all required materials, equipment, tools, full time supervision and labor necessary for and incidental to the Site Work of Mt Elliott Park edge. This work generally includes the following:

SITE WORK

Earthwork, concrete rubble relocation and cleanup, site drainage piping, site drainage structure adjustment, placement of blank PVC conduit for future utilities, driving steel pilings, structural steel erection, poured in place reinforced structural concrete, exposed aggregate concrete flatwork, concrete encasement of structural steel, galvanized steel handrailing, painting of primed steel structure and galvanized handrail, hydro-seeding, and PVC coated chain link fencing, for the construction of approximately 600 lf of seawall and concrete rip-rap Detroit River edge improvements.

EXAMINATION AND PROCUREMENT OF DOCUMENTS

The Bid documents, which must be used in submitting a proposal, may be examined at the Recreation Department, Landscape Design Unit, Room 2001 Water Board Building, 735 Randolph Street, Detroit, Michigan 48226, during regular business hours, 8:00 am to 4:00 pm. Copies may be obtained for a \$100.00 non-refundable deposit per set. A set will consist of two copies of bid forms and specifications and three copies of drawings. Make checks used for bidding documents payable to "Treasurer, City of Detroit".

PREBID CONFERENCE

A pre-bid conference will be held at the site, 203 Mt. Elliott, Detroit, Michigan. A notification will be announced in an Addendum. The purpose of the conference is to allow Bidders the opportunity to ask questions concerning the Bid Documents. Call 224-1145 for directions.

BID SECURITY

Each proposal must be accompanied by a certified check, bank draft, Irrevocable Bank Letter of Credit, payable to the City of Detroit, or a satisfactory surety bid bond in an amount not less than five (5%) percent of the total bid price as guarantee and security by a guaranty or security company listed in the latest issue of the U. S. Treasury Form 570. The amount of such Bid Bond shall be within the maximum amount specified for such company in said form 570. No bid shall be considered unless it is accompanied by the required guaranty.

Checks must be made payable to the "Treasurer, City of Detroit".

No proposal once submitted may be withdrawn for at least 120 days after the actual opening of the bids. The City of Detroit reserves the right to waive any irregularity in any bid, or to reject any or all bids, should it be deemed for its best interest.

CITY OF DETROIT

Oreese Collins, Jr., Director
Finance Department, Purchasing Division

Daniel H. Krichbaum, Director
Recreation Department

SPECIAL CONDITIONS

1. **ORDINANCES/DEFINITIONS.** Copies of all related ordinances, executive orders, and definitions of all items including "Sheltered Market Program", "Minority Business Enterprise" (MBE), "Woman-owned Business Enterprise" (WBE), "Small Business Enterprise (SBE)", "Detroit-based Business", "Minority" and "Resident" are available upon request by calling the Purchasing Division at 224-4600.

The following definitions shall apply to the formal Bid document and all attachments:

- City - The City of Detroit acting through the Purchasing Director.
- CCD - Contract Compliance Division of the City of Detroit's Finance Department.
- Bidder- The person or entity so named in the Formal Bid Document, or their authorized representative.

2. **ELIGIBLE BIDDERS.** An "X" below indicates the classification of bidders that the City has determined to be eligible to complete for this contract.

2.1 Competition for this contract is open to all qualified bidders. (X)

2.2 Competition for this contract is restricted per Ordinance No. 559-H to under Sheltered Market Program participants, in which the minority business enterprise participant has obtained certification by the Contract Compliance Division (CCD) prior to the Bid due date. ()

Minority Business Enterprise ()

Woman-owned Business Enterprise ()

Small Business Enterprise ()

2.3 Competition for this contract is restricted per ordinance No. 559-H to minority joint ventures, under the Sheltered Market Program, in which the minority business enterprise participant has obtained certification by the Contract Compliance Division (CCD) prior to the Bid due date. ()

SVM-8801
Mt. Elliott Park

SC-2

- 2.4 Competition for this contract is restricted per Ordinance No. 52-H to Detroit-based Business. ()
3. **SUBCONTRACTOR UTILIZATION REQUIREMENTS.** The City has determined that 20% of the total contract amount shall be subcontracted to MBE's who have obtained certification from the Contract Compliance Division (CCD) prior to the bid due date. (X)
4. **MINORITY AND RESIDENT HIRING.** (Executive order No. 22)
The work on this contract shall be performed by not less than 50% bona fide City residents, not less than 25% minorities and at least 5% women. (X)

**SPECIAL STATUS
CONTRACTOR CONDITION
(TO BE COMPLETED BY THE BIDDER)**

Place a "CHECK MARK" in the appropriate space under each heading below to indicate the majority control of the business by race, ethnicity, the category that describes the type of business and the type of business for which certification has been obtained from the Contract Compliance Division of the City of Detroit's Finance Department.

**CHECK TO INDICATE MAJORITY
CONTROL (51% OR MORE) OF
THE BUSINESS BY
RACE/ETHNICITY**

RACE/ETHNICITY

Black
American Indian
Hispanic
Asian American
White
Other

(indicate)

**CHECK TO INDICATE
THE CATEGORY
THAT DESCRIBED
THE TYPE OF BUSINESS**

**INDICATE DATE THAT
CERTIFICATION WAS
OBTAINED FROM
"CONTRACT COM-
PLIANCE DIVISION"**

TYPE OF BUSINESS

Minority Business
Enterprise
Minority Joint Venture
Woman-Owned
Business Enterprise
Small Business
Enterprise
Other

(indicate)

SHELTERED MARKET PROGRAM. The bidder shall comply with Ordinance No. 559-H and Sections 2 and 3 of the "Special Conditions." contained herein. It is the responsibility of competitors under the Sheltered Market Program to obtain certification from the CCD prior to the bid due date. The City shall not be responsible for any failure to obtain certification prior to the bid due date.

SANCTION APPLICABLE UNDER THE SHELTERED MARKET PROGRAM. A person who commits any of the offenses setforth in Ordinance No. 559-H Section 21-13-17(1) & (2) shall be guilty of a misdemeanor, punishable by a \$500 fine, up to 90 days imprisonment, or both. Such offenses shall include: (1) obtaining certification through the use of fraud or deceit; (2) willfully failing to report changes which affect certification; or (3) Willful violation of any provisions of this article or any rule promulgated pursuant to this article.

The offenses listed above or other violations to the Ordinance may also result in additional sanctions being imposed, including by way of example, the following: (1) decertification and disqualification from bidding on future contracts; (2) cession or termination of the contract; (3) injunctive relief; (4) liquidated damages; (5) withholding of payments; or other remedies as provided under the contract or by law.

END OF SPECIAL CONDITIONS SECTION

PROPOSAL - Part 1

To Owner: CITY OF DETROIT
Finance Department, Purchasing Division
912 City-County Building
Detroit, Michigan 48226

Pursuant to and in compliance with the advertisement to Bid and the proposed Contract Documents relative to the construction of:

Project: MT. ELLIOTT PARK
Seawall Edge
Detroit, Michigan
Including Addendums __, __, __,

The undersigned, having become thoroughly familiar with the terms and conditions of the proposed Contract Documents and with local conditions affecting the performance and costs of the Work at the place where the Work is to be completed, and having fully inspected the site in all particulars, hereby proposes and agrees to fully perform the Work within the time stated and in strict accordance with the proposed Contract Documents, including furnishing any and all labor, materials, equipment, and full time supervision, to execute all of the work required to construct and complete said Work in accordance with the Contract Documents, for the following sum of money:

Base Bid: All labor, materials services, equipment, and full-time supervision necessary for completion of the Work shown on the Drawings and in the Specifications.

Lump Sum Price in Words

Lump Sum Price in Figures

1. The above said amount constitutes the Base Bid. This Base Bid amount may be increased or decreased by accepting any one or all of the alternates or unit prices on the following pages in any combination, which is deemed to be in the best interest of the Owner. The Bidder shall not be allowed any additional compensation, other than the amounts indicated on the bid Form, for adjustments by alternates or unit prices. The amounts indicated for both the alternates and unit prices shall remain unchanged throughout the contract. Consequently, Contract Award, when made will be for a single lump sum Base Bid adjusted by any combination of the selected alternates or unit prices.

2. I understand that the owner reserves the right to reject this bid, but that this bid shall remain open and not be withdrawn for a period of one hundred and twenty (120) days from the date prescribed for its opening.
3. If written notice of the acceptance of the bid is mailed or delivered to the undersigned within one hundred and twenty (120) days after the date set for the opening of this bid, or at any time thereafter before it is withdrawn, the undersigned will execute and deliver the Contract Documents to the Owner in accordance with this bid as accepted within ten (10) days, and will also furnish and deliver to the Owner the Performance Bond, Labor and Material Payment Bond and proof of insurance coverage as stipulated in the Instructions to Bidders.
4. The Contractor must include AIA Document A305 Contractor's Qualifications Statement information for himself and for the concrete work contractor, **WITH THIS BID PROPOSAL.**
5. List below the intended sub-contractors. Note: All lines must be filled in.

Concrete Foundation and Steel Encasement Work _____

Concrete Seawall Cap and Flatwork _____

Structural Steel Work _____

Driven Piling Work _____

The Owner and Architect will review the above Contractor, and subcontractors qualification information and, acting in the best interest of the Owner, approve or reject the proposed Contractor or Subcontractors. If any Contractor or Subcontractors do not meet approval, the Bidder shall be required to, within seven days of rejection notification, propose another contractor or subcontractor who is capable of performing the work who is acceptable to the Owner and Architect **AT NO ADDITIONAL COST TO THE OWNER.**

5. Work Schedule:

In accordance with Section 01010, Paragraph 1.6 "work sequence", all work contained within the "Base Bid" must be completed by 12:00 noon, E.S.T., November 29, 1991, however; Bidder shall, by checking the appropriate box, acknowledge that:

___ He/She can meet the specified deadline.

___ He/She cannot meet the specified deadline, but could complete all work by _____.

The certified check, bank draft, irrevocable bank letter of credit or surety Bid Bond, which must be submitted with the Bid Proposal, not less than five percent based on the Total Base Bid Price is to become the property of the owner in the event the Contract and Bonds are not executed within the time set forth, as liquidated damages for the delay and additional expenses to the owner caused thereby.

Upon receipt of written notice of acceptance of this bid, Bidder will execute the formal contract within ten (10) days and deliver all additional Bonds as required, with the Contract.

Signature of Bidder

Title

Date

SVM-8001
Mt. Elliott Park

P1-4

Note: If the Bidder is a corporation, set forth the legal name of the corporation together with the signature of the officer or officers authorized to sign contracts on behalf of the corporation. If Bidder is a partnership, set forth the name of the firm together with the signature of the partner or partners authorized to sign Contracts on behalf of the partnership.

Business Address:

Firm Name

Number and Street

City, State and Zip Code

Telephone Number

Date

UNIT PRICE BIDS

The Contractor shall submit Unit Prices for the type of work stated below with Bid. These prices shall reflect all coordination, supervision, overhead and profit. The Owner reserves the right to increase or decrease the contract price at any time prior to bid acceptance or during the life of the Contract, at no additional costs to the Owner, other than on the basis of the Unit Prices stated below.

The cost below shall include all labor, materials and equipment necessary to insure a complete and fully functional product. All products shall be provided and installed or disposed of properly per Drawings and Specifications unless otherwise noted herein.

1. Demolition

- a. Remove and dispose of off-site latent or concealed concrete structures below surface of ground with reinforcing steel, and backfilling with per earthwork specifications (CY) \$____
- b. Remove and dispose of off-site latent or concealed concrete structures below surface of ground without reinforcing steel, and backfilling with per earthwork specifications. (CY) \$____
- c. Remove and dispose of off-site latent or concealed boulders or broken concrete in excess of one cubic yard in size, and backfilling with per earthwork specifications. (CY) \$____
- d. Wood piles cut off below water at river bottom. (EA) \$____
- e. Miscellaneous steel debris cutting and removal (CY) \$____

2. Earthwork

- a. Excavate unsuitable subbase material, regrade on site and provide backfill material, compacted in place. (CY) \$____
- b. Earthwork materials requirements per specifications.
 - 1. Handling excavated material to remain on site. (CY) \$____
 - 2. Provide and install walkway drainage base. (CY) \$____
 - 3. Provide and install utility trench backfill material. (CY) \$____
- c. Topsoil (CY) \$____

- d. Existing concrete rubble clean-up and relocation. (SY) \$_____
- e. New concrete rip-rap pieces delivered and set in place for 100 cyds. (CYD) \$_____
- f. New concrete rip-rap pieces delivered and set in place for 250 cyds. (CYD) \$_____
- g. New concrete rip-rap pieces delivered and set in place for 500 cyds. (CYD) \$_____

3. Utilities

- a. Install 6" PVC sleeve, Schedule 80 (LF) \$_____
- b. Adjust casting frame elevation of M.H. or C.B. (per lineal foot of height) (FT) \$_____
- c. 12" CL56 D.I. Polywrapped concrete pipe, capped with rubber plugs both ends (LF) \$_____

4. Concrete and Decking Work

- a. Seawall reinforced concrete edge per drawings (LF) \$_____
- b. 6" thick exposed aggregate reinforced concrete walks, including tooled jointing sawcutting, sealer, and excavation and subbased placement. (SF) \$_____
- c. Concrete foundations excavation, installation and backfilling. (CY) \$_____
- d. 1" expansion joint with sealant and fiberboard (LF) \$_____
- e. 1/2" expansion joint with sealant and fiberboard (LF) \$_____
- f. Sawcut paving joints (1/8" x 1-1/2") (LF) \$_____
- g. Driven steel piles W14x342. (LF) \$_____
- h. Concrete encasement for driven pile/column W14x342. (LF) \$_____
- i. Provide, erect, and finish structural steel beams. (LB) \$_____
- j. Provide and install steel decking. (SF) \$_____

SVM-8001
Mt. Elliott Park

P1-7

k. Bollard (round), installed. (EA) \$____

l. Bollard (square), installed. (EA) \$____

5. Hydroseeding

a. Scarification of finish grade and apply hydroseeding
with tacking mulch. (SYD) \$____

6. Fencing

a. Provide and install pre-coated chain link fence. (LF) \$____

7. Metal Fabrication

a. Safety ladder, installed. (EA) \$____

b. Handrail (round), installed. (LF) \$____

c. Handrail (square), installed. (LF) \$____

*** END OF UNIT PRICES ***

ALTERNATES

The owner reserves the right to increase or decrease the base Bid as submitted on the Bid Proposal Form as a single Lump Sum, at any time prior to or during the life of the contract, at no additional costs to the Owner, other than indicated below in accordance with the following alternatives. The Owner reserves the right to accept any part of the following alternates as a separate addition to the scope and cost of work. Refer to section 01100 and the drawings for detailed explanations. Amounts shall be shown in both words and figures and include all coordination, supervision, overhead and profit. Indicate if Add or Deduct.

Alternate No. 1 Part A:

Add concrete/steel spandrel edge along existing outflow not including handrail as shown on Sheet L5 and add Detail 10 on Sheet S2. Add all concrete work on outflow and adjust existing catch basin. Base bid price shall reflect no work in this area.

_____ (add/deduct) \$ _____
Words Figures

Alternate No. 1 Part B:

Add 3 square and 38 round concrete bollards as shown on Sheet L5, L6 and Detail 7 on Sheet L7. Base bid shall not include bollards.

_____ (add/deduct) \$ _____
Words Figures

Alternate No. 1 Part C:

Add all 6" thick concrete walkways as shown on Sheet L5, L6 and Detail 1 on Sheet L7. Base bid shall include installation of slag walkway and concrete flatwork on steel framework.

_____ (add/deduct) \$ _____
Words Figures

Alternate No. 2:

Add all work in the above alternate number one, including all parts.

_____ (add/deduct) \$ _____
Words Figures

Alternate No. 3 Part A

Add 312 If round handrail (4" nominal diameter,) and painting as shown on Sheet L5, L6 and Details 3 and on Sheet L7. Base bid to include all sleeves per Detail 3 on Sheet L7; cover holes with weatherproof tape. Base bid price shall include 3" nominal diameter handrails (round).

_____ (add/deduct) \$ _____
Words Figures

Alternate No. 3 Part B

Place 116 If square handrail (4"x4" nominal size) in place of 116 If of 312 If total round handrail in alternate number 3, Part A to be located at the west end of the park on the outflow to the connection of the curvilinear walkway. Remaining \pm 195 handrails (3-1/2" nominal diameter) shall be round. Base bid to include all sleeves per detail 3 on Sheet L7; cover holes with weatherproof tape. Base bid price shall include 3" nominal diameter handrails (round).

_____ (add/deduct) \$ _____
Words Figures

Alternate No. 4:

Alternate method of installation of driven pilings.

_____ (add/deduct) \$ _____
Words Figures

CONTRACTOR'S QUALIFICATION STATEMENT

This Contractor's qualification statement information requested and AIA Document A305 (included within this specification), **must be included with the bid proposal for the bidder and the Contractor(s) executing concrete work. Failure to include all these required qualifications with the bid on bid day will be reason for rejection of the bid if so determined by the Owner to be in the best interest of the City.**

The Owner and Architect will review all qualification statement information submitted and, acting in the best interest of the Owner, approve or reject the proposed Contractors who meet the following qualifications and those stated in document A305.

CONTRACTOR'S QUALIFICATIONS FORM AIA DOCUMENT A305 SUPPLEMENTAL DIRECTIONS

The Bidder and the Concrete Contractor are required to complete and submit AIA Document A305 with the bid on bid day. If the bidder will execute all said work himself then the bidder needs to submit the AIA Document A305 as amended for concrete work.

STEP A: The bidder shall complete in full the attached AIA Documents A305.

STEP B: The bidder shall complete in full the attached AIA Documents A305 as amended to include the following additional requirements.

Item 1.1: The Contractor shall have not less than five years experience and expertise in executing specialized steel/driven piling work of equal size and similar nature.

Item 7.0: The Contractor shall list, on a separate sheet of paper, not less than six projects completed in the last three years which required similar scope of work. The list shall include a current contact person, phone number, and types of steel/driven piling work performed.

Item 8.0: The Contractor shall list, on a separate sheet of paper, all names of the key, individuals who will be employed on this project, each individual's experience and length of time with the contractor's company and other concrete contractors. This list shall minimally include the job superintendent and lead foreman.

STEP C: The concrete work contractor shall complete in full the attached AIA document A305 as amended to include the following additional requirements.

Item 1.1: The concrete contractor shall have not less than five years experience and expertise in executing specialized concrete work and formwork of an EQUAL and SIMILAR nature.

Item 3.7: The concrete contractor shall list, on a separate sheet of paper, not less than five projects completed in the last five years which required exposed aggregate and concrete flatwork.

Item 3.6.1 The Contractor shall list, on a separate sheet of paper, all names of the key individuals who will be employed on this project, each individuals experience and length of time with the contractor's company and other concrete contractors. This list shall minimally include the job superintendent, lead carpenter and lead concrete finisher.

(This contractors qualifications requirements continue with AIA Document A305 as follows)



AIA Document A305

Contractor's Qualification Statement

1986 EDITION

This form is approved and recommended by The American Institute of Architects (AIA) and The Associated General Contractors of America (AGC) for use in evaluating the qualifications of contractors. No endorsement of the submitting party or verification of the information is made by the AIA or AGC.

The Undersigned certifies under oath that the information provided herein is true and sufficiently complete so as not to be misleading.

SUBMITTED TO:

ADDRESS:

SUBMITTED BY:

NAME:

ADDRESS:

PRINCIPAL OFFICE:

Corporation

Partnership

Individual

Joint Venture

Other

NAME OF PROJECT (if applicable):

TYPE OF WORK (file separate form for each Classification of Work):

_____ General Construction

_____ Plumbing

_____ Other _____

(please specify)

_____ HVAC

_____ Electrical

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1. ORGANIZATION

- 1.1 How many years has your organization been in business as a Contractor?
- 1.2 How many years has your organization been in business under its present business name?
 - 1.2.1 Under what other or former names has your organization operated?

1.3 If your organization is a corporation, answer the following:

- 1.3.1 Date of incorporation:
- 1.3.2 State of incorporation:
- 1.3.3 President's name:
- 1.3.4 Vice-president's name(s):

1.3.5 Secretary's name:

1.3.6 Treasurer's name:

1.4 If your organization is a partnership, answer the following:

- 1.4.1 Date of organization:
- 1.4.2 Type of partnership (if applicable):
- 1.4.3 Name(s) of general partner(s):

1.5 If your organization is individually owned, answer the following:

- 1.5.1 Date of organization:
- 1.5.2 Name of owner:

- 1.6 If the form of your organization is other than those listed above, describe it and name the principals:

2. LICENSING

- 2.1 List jurisdictions and trade categories in which your organization is legally qualified to do business, and indicate registration or license numbers, if applicable.

- 2.2 List jurisdictions in which your organization's partnership or trade name is filed.

3. EXPERIENCE

- 3.1 List the categories of work that your organization normally performs with its own forces.

- 3.2 Claims and Suits. (If the answer to any of the questions below is yes, please attach details.)

3.2.1 Has your organization ever failed to complete any work awarded to it?

3.2.2 Are there any judgments, claims, arbitration proceedings or suits pending or outstanding against your organization or its officers?

3.2.3 Has your organization filed any law suits or requested arbitration with regard to construction contracts within the last five years?

- 3.3 Within the last five years, has any officer or principal of your organization ever been an officer or principal of another organization when it failed to complete a construction contract? (If the answer is yes, please attach details.)

3.4 On a separate sheet, list major construction projects your organization has in progress, giving the name of project, owner, architect, contract amount, percent complete and scheduled completion date.

3.4.1 State total worth of work in progress and under contract:

3.5 On a separate sheet, list the major projects your organization has completed in the past five years, giving the name of project, owner, architect, contract amount, date of completion and percentage of the cost of the work performed with your own forces.

3.5.1 State average annual amount of construction work performed during the past five years:

3.6 On a separate sheet, list the construction experience and present commitments of the key individuals of your organization.

4. REFERENCES

4.1 Trade References:

4.2 Bank References:

4.3 Surety:

4.3.1 Name of bonding company:

4.3.2 Name and address of agent:

5. FINANCING

5.1 Financial Statement.

- 5.1.1 Attach a financial statement, preferably audited, including your organization's latest balance sheet and income statement showing the following items:

Current Assets (e.g., cash, joint venture accounts, accounts receivable, notes receivable, accrued income, deposits, materials inventory and prepaid expenses);

Net Fixed Assets;

Other Assets;

Current Liabilities (e.g., accounts payable, notes payable, accrued expenses, provision for income taxes, advances, accrued salaries and accrued payroll taxes);

Other Liabilities (e.g., capital, capital stock, authorized and outstanding shares par values, earned surplus and retained earnings).

- 5.1.2 Name and address of firm preparing attached financial statement, and date thereof:

- 5.1.3 Is the attached financial statement for the identical organization named on page one?

- 5.1.4 If not, explain the relationship and financial responsibility of the organization whose financial statement is provided (e.g., parent-subsidary).

- 5.2 Will the organization whose financial statement is attached act as guarantor of the contract for construction?

6. SIGNATURE

6.1 Dated at _____ this _____ day of _____ 19____

Name of Organization:

By:

Title:

6.2

I, _____ being
duly sworn deposes and says that the information provided herein is true and sufficiently complete so as not to be
misleading.

Subscribed and sworn before me this _____ day of _____ 19____

Notary Public:

My Commission Expires:

PROPOSAL

P. 2

PART II CONDITIONS

II.1 BID DEPOSIT

A bid deposit accompanies this Proposal in the form checked below:

- ☐ Bid Bond by Surety Company
- ☐ Certified Check or Bank Draft
- ☐ Irrevocable Bank Letter of Credit

Such deposit is in an amount not less than called for in the Advertisement, and is given as a guarantee of the good faith of the Undersigned and that the Undersigned will enter into written contract as provided, if successful in securing the award thereof; and it is hereby agreed that if at any time other than as provided in the Contract requirements and conditions, the Undersigned should withdraw this Proposal, or if this Proposal is accepted and should there be a failure on the part of the Undersigned to execute the Contract and furnish satisfactory Bonds within 10 days after the date of notification of the acceptance of this Proposal, in either of such events, the bid deposit shall be forfeited to the City of Detroit as liquidated damages, and not as a penalty; otherwise the bid deposit shall be returned to the Undersigned upon confirmation of the Contract.

II.2 BIDDER'S EXAMINATIONS AND UNDERSTANDING

The Undersigned certifies that the Contract Documents listed in the Standard Instructions to Bidders, together with any and all Bulletins issued, have been carefully examined, and the site of the work has been inspected. The Undersigned declares that the amount and nature of the work is understood, and that at no time will misunderstanding of the Contract Documents be pleaded.

II.3 BIDDER'S QUALIFICATIONS

The Undersigned declares that he has had prior experience in the type of work required by the Contract Documents and that he has the necessary finances, personnel and working organization, and equipment available to execute the proposed work in accordance with the requirements of the Contract Documents. The Undersigned further declares that he is prepared to and will promptly furnish a certified written statement regarding his qualifications, including finances, upon request of and on the forms provided by the City Engineer.

II.4 STARTING AND COMPLETING WORK

The Undersigned declares that if awarded the Contract, he is prepared to and will start the work and complete the entire project in accordance with the provisions set forth under "Time of Starting and Completing Work" in the Special Notice to Bidders.

II.5 BID NON-COLLUSIVE

The Undersigned certifies that this Proposal is fair and genuine, and not collusive or sham, and that he has not in any manner, directly or indirectly agreed or colluded with any other person, firm, or association to submit a sham bid or to refrain from bidding, or in any way to fix the amount of this Proposal or that of any other bidder, or to secure any advantage against the City of Detroit. An affidavit to this effect is attached hereto and becomes a part of this Proposal.

PROPOSAL

The Undersigned further certifies that no officer or employee of the City of Detroit is personally or financially interested, directly or indirectly, in this Proposal, or in any contract which may be made under it, or in the purchase or sale of any materials or supplies for the work to which it relates, or any portion of any expected profits thereto.

II.6 BIDDER NOT IN ARREARS

The Undersigned certifies that, as of the date of this Proposal, he is not in arrears to the City of Detroit for debt or contract or is in any way a defaulter as provided for in Sec. 21-3-15, City Code (Ordinance No. 52H).

II.7 WAIVER

The Undersigned certifies the price bid in this Proposal is correct and complete and stated as intended by the Undersigned for work covered by this Proposal, and, further, that all information given in or furnished with this Proposal is correct, complete, and submitted as intended by the Undersigned, and the Undersigned does hereby waive any right or claim he may now have or which may hereafter accrue to him, by reason of errors, mistakes, or omissions made by the Undersigned in this Proposal, to refuse to execute the Contract if awarded to him, or to demand the return of the Bid deposit, or to be relieved from any of his obligations as set forth in said Bid Deposit required with this Proposal.

II.8 REJECTION OF BIDS

The Undersigned understands that the City of Detroit reserves the right to waive any irregularity in any bid, or to reject any or all bids.

II.9 CERTIFICATION OF NONSEGREGATED FACILITIES

The bidder certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location under his control where segregated facilities are maintained. The bidder certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location under his control where segregated facilities are maintained. The bidder agrees that a breach of this certification will be a violation of the Equal Opportunity clause in any contract resulting from acceptance of this bid.

As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, timeclocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, or national origin, because of habit, local custom, or otherwise. The bidder agrees that (except where he has obtained identical certifications from proposed subcontractors for specific time periods) he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity clause, and that he will retain such certifications in his files.

PROPOSAL**PART III NAME, ADDRESS, LEGAL STATUS, AND SIGNATURE OF BIDDER**

This Proposal is submitted in the name of:

(Print full legal name)

Treasury No.

The Undersigned hereby designates below his business address to which all notices, directions, or other communications may be served or mailed:

Street _____

City _____ Zip Code _____ State _____

The Undersigned hereby declares that he had the legal status checked below:

☐ INDIVIDUAL☐ DOING BUSINESS UNDER AN ASSUMED NAME, which is registered with the County of _____, Michigan☐ CO-PARTNERSHIP, which is registered with the County Clerk of the County of _____, Michigan☐ CORPORATION, incorporated under the laws of the State of _____(If other than _____ : Now licensed to do business in Michigan ☐ YES
(Michigan Corp. ☐ NO☐ Certificate on P. 5 has been executed as evidence the person signing has the authority to commit the corporation to this Proposal

The names, titles and home addresses of all persons directly interested in this Proposal are as follows:

<u>NAME AND TITLE</u>	<u>SOC. SECURITY NO.</u>	<u>HOME ADDRESS</u> (Incl. City, State & Zip Code)
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Signed and sealed

By _____
(signature)

this _____ day

of _____, 19 _____

Title _____
(Printed Name of Signer)

PROPOSAL

(Note: Bidder, if a corporation, shall cause the following certificate to be executed, provided that the same officer shall not execute both the proposal and the certificates.)

CERTIFICATE

I, _____, certify that I am the
_____ of the corporation named as Bidder herein;
that _____ who signed this Proposal on behalf of said
corporation, was then _____ of said corporation;
that said Proposal was duly signed and the corporate seal affixed for and in behalf of said corporation by
authority of its governing body, and is within the scope of its corporate powers.

(Date)

(Signature)

SPECIAL NOTICE TO BIDDERS

1. GENERAL PURPOSE

The Special Notice to Bidders contains information and requirements applying specifically to this particular Contract. The Special Notice to Bidders supplements the Standard Instructions to Bidders, and in case of any discrepancy between the requirements in the former and latter, the provisions in the Special Notice to Bidders shall govern.

The published Advertisement, for the proposed Contract, also contains information necessary to the bidders, and is to be considered a part of the Special Notice to Bidders as if fully herein repeated.

2. DESCRIPTION OF WORK

The work consists of furnishing all required materials, equipment, tools, full time supervision and labor necessary for and incidental to the Site Work of Mt. Elliott Park edge. This work generally includes the following:

Earthwork, concrete rubble relocation and cleanup, site drainage piping, site drainage structure adjustment, placement of blank PVC conduit for future utilities, driving steel pilings, structural steel erection, poured in place reinforced structural concrete, exposed aggregate concrete flatwork, concrete encasement of structural steel, galvanized steel handrails, painting of primed steel structure and galvanized handrail, hydro-seeding, and PVC coated chain link fencing, for the construction of approximately 600 lf of seawall and concrete rip-rap Detroit River edge improvements.

3. CONTRACT DOCUMENTS

The Contract Documents are composed of those individual parts as named by title in Article 2 of the Standard Instructions to Bidders.

Part I contains the Standard Contract Forms.

Part II consists of General and Detailed Specifications included herein and as indicated in the Abridged Table of Contents.

Part III consists of a List of Drawings, prepared by Schervish Vogel Merz, PC.

4. SPECIAL FORMS

Bidders will note that a copy of each of the following pages have been included:

Proposal Signature Page, Agreement Signature Page, Acknowledgement - Corporation, Acknowledgement - Sole Proprietorship or Partnership, Resolution of Corporate Authority, Certificate of Partnership Authority.

Each set of the applicable documents is to be completed, signed, and returned with the proposal. These will later be used in preparing the Executed Contract for the accepted bid.

Refer to the Advertisement, Special Conditions and Special Notice to Bidders, Section #29 for MBE Subcontractor Requirements.

5. HUMAN RIGHTS CLEARANCE

Attached is a copy of the Human Rights Clearance Questionnaire, as well as a copy of the requirements of the Department of Human Rights of the City of Detroit. While not required to be submitted with the bid, both the low and the second bidders will be required to furnish the information prior to award of the Contract.

A Human Rights review of employment goals will be required for each project, regardless of the recency of prior clearances.

6. CONTRACTOR AUTHORITY TO START WORK

The Contractor will have no authority to start work, no payments will be authorized by the Finance Department, and the City of Detroit will not be liable for reimbursement for any materials purchased or payment for any service rendered by the Contractor prior to the award of this Contract by resolution of the City Council, execution of this instrument by the Purchasing Director, and the Contractor's receipt of the "Notice to Proceed" as stipulated under Section #18 herein.

7. INDEPENDENT CONTRACTOR

The relationship of the Contractor to the City of Detroit is and shall continue to be that of an independent contractor, and no liability or benefits, such as workers compensation, pension rights or liabilities, insurance rights or liabilities, or other provisions or liabilities arising out of or relating to a Contract for hire of employer/employee relationship shall arise or accrue to either part or either party's agent or employee with respect to the City of Detroit as a result of the performance of this Contract, unless expressly stated in this Contract.

8. WAIVER

The Contractor shall not hold the City liable for any personal injury incurred by any employee, agents, or consultants while working on this project which is not held in a court of competent jurisdiction to be directly attributable to the gross negligence of the City or any employee of the City acting within the scope of their employment and hereby agrees to hold the City harmless from any such claim by its employees, agents or consultants.

9. AUDIT

Nothing contained in this Contract shall be construed or permitted to operate as any restriction upon the power granted to the City Council by the City Charter to audit and allow all accounts chargeable against the City.

10. INDEMNITY AND DAMAGES

A. The Contractor agrees to save harmless the City against and from any and all liabilities, obligations, damages, penalties, claims, costs, charges, losses and expenses including without limitation, reasonable fees and expenses for attorneys (at the prevailing market rate for such legal services, expert witnesses and other consultants), which may be imposed upon, incurred by or asserted against the City by reason of any of the following occurring during the term of the Contract:

- (1) Any negligent or tortuous act, error or omission of the Contractor or any of its Associates for whose acts any of them might be liable, regardless of whether or not it is caused in part by a person indemnified hereunder.
- (2) Any failure by the Contractor or any of its Associates to perform its obligations, either expressed, or implied under this Contract.

The Contractor also agrees to hold the City harmless from any and all injury to the person or damage to the property, or any loss or expense incurred by an employee of the City which arises out of or pursuant to the Contractor's performance, or that of its Associates under this Contract.

- B. The Contractor undertakes and assumes all risk of dangerous conditions, if any, in and about any City premises and agrees to make an examination of all places where it will be performing the Services in order to determine whether such places are safe for the performance of the Services. The Contractor also agrees to waive and release any claim or liability against the City for personal injury or property damage sustained by it or its Associates for personal injuries or property damage while performing under this Contract on premises which are not owned by the City.
- C. In the event any action or proceeding shall be brought against the City by reason of any claim covered hereunder, the Contractor, upon notice from the City, will at its sole cost and expense, resist and defend the same with counsel of the Contractor's choice which is acceptable to the City.
- D. The Contractor agrees that it is its responsibility and not the responsibility of the City to safeguard the property and materials that it or any of its Associates use or have in their possession while performing this Contract. Further, the Contractor agrees to hold the City harmless for any loss of such property and materials used by any such person pursuant to the Contractor's performance under this Contract or which is in their possession.

- E. The indemnification obligation under this Article shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for the Contractor under Workers Compensation Acts or other employee benefit acts. In addition, the Contractor agrees to hold the City harmless from the payment of any deductible on any insurance policy.
- F. The Contractor agrees that this Article 12 Indemnity and Damages shall apply to all matters described in Article 12-A, Indemnity and Damages, (whether the matter is litigated or not) which occur or arise between the Contractor or its Associates, and the City, and agrees to save the City harmless therefrom as provided in this Article. 12.

11. TERMINATION FOR CONVENIENCE

The City may terminate this Contract without cause at any time, without incurring any further liability whatsoever, other than as stated in this provision, by giving written notice to the Contractor of such termination, specifying the effective date thereof, at least fifteen (15) days prior to the effective date of such termination. If the Contractor is terminated, the City will pay the Contractor only for the services rendered prior to termination, including any Hold-Back. The amount of the payment shall be computed by the City on the basis of the services rendered, and such other means which, in the judgement of the City, represents a fair value of the services provided, less the amount of any previous payments made, which final payment the Contractor agree shall constitute full and complete payment and satisfaction under this Contractor. Should the City or the City's designee undertake any part of the services which are to be performed by the Contractor, to the extent such services which are to be performed by the City or its designee, the Contractor shall not be entitled to any compensation for the services so performed. This section is subject to the maximum sum payable provision of this Contract.

12. RIGHTS, REMEDIES, AND JURISDICTION

The rights and remedies set forth herein are not exclusive and are in addition of any of the rights and remedies provided by law or equity. All actions arising under this Contract shall be governed by, subject to, and construed according to the laws of the State of Michigan. The Contractor agrees, consents and submits to the personal jurisdiction of any competent court in Wayne County, Michigan, for any action brought against it arising out of this Contract. The Contractor agrees that service of process at the address and in the manner specified in this Contract will be sufficient to put the Contractor on notice. The Contractor also agrees that it will not commence any action against the City because of any matter whatsoever arising out of or relating to the validity, construction, interpretation and enforcement of this Contract, in any courts other than those in the County of Wayne, State of Michigan.

13. COMPARABLE OR EQUIVALENT TERMS

The Contractor warrants that all of the prices, terms, warranties, and benefits granted to the City herein are comparable to or better than the equivalent terms being offered by the Contractor to any present customer for like or similar services. In addition to the other remedies which the City may invoke herein for the Contractor's breach, it may demand repayment of any overpayment plus interest.

14. **BASIS OF PROPOSAL**

The Proposal is on a Lump Sum basis, in accordance with Article 7E of the Standard Instructions to Bidders. All alternate and/or unit price bids must be completed at bid time. Incomplete Bid Proposals may be rejected by the City.

15. **CITY OFFICER**

The title and post office address of the officer named in the agreement as acting on behalf of the City is:

Daniel H. Krichbaum, Director
Recreation Department
735 Randolph Street, Room 2006
Detroit, Michigan 48226

16. **BOND REQUIREMENTS**

The amount of Performance and Payment Bonds required shall be as follows:

<u>Type of Contract</u>	<u>Performance Bond</u>	<u>Payment Bond</u>
City of Detroit financed Contracts of \$50,000 and under	12-1/2% of Contract Price	12-1/2% of Contract Price
City of Detroit financed Contracts over \$50,000 but under \$1,000,000	25% of Contract Price	25% of Contract Price
All Contracts over \$1,000,000 or those financed by Federal Funds	100% of Contract Price	100% of Contract Price

17. **INSURANCE REQUIREMENTS**

17.01 The Contractor shall maintain, at its expense, during the term of this Contract the following insurance:

<u>TYPE</u>	<u>AMOUNT NOT LESS THAN</u>
a. Workers' Compensation Insurance Employer's Liability	Statutory limit \$100,000 minimum each accident
b. Comprehensive General Liability Insurance	\$1,000,000 per occurrence \$2,000,000 per aggregate

- c. Automobile Liability Insurance (covering all owned, hired and non-owned vehicles with personal and property protection insurance including residual liability insurance under Michigan No Fault Insurance Law) \$1,000,000 combined single limit
- d. Builder's Risk Insurance

The Builder's Risk Insurance shall include fire, extended coverage, vandalism and malicious mischief, for 100 percent value under the provisions of Article 8 of the General Conditions.

The comprehensive general liability insurance policy shall name as an additional insured "The City of Detroit" and shall state that the Contractor's insurance is primary, as respect to the City of Detroit as an additional insured, and not excess over any insurance already carried by the City of Detroit.

The comprehensive general liability insurance policy shall provide blanket contractual liability insurance for all written contracts or in the alternative, shall contain specific endorsement worded substantially as follows:

"During the effective period of the policies mentioned herein, it is agreed that this insurance specifically covers liability assumed by the insured under the provisions of Contract No. _____ dated _____, entered into by the insured and the City of Detroit.

If the comprehensive general liability insurance policy does not contain the standard ISO (Insurance Services Office) wording of "definition of insured" which reads essentially as follows: "The insurance afforded applies separately to each insured...except with respect to limits..." then in the alternative, the comprehensive general liability insurance policy shall contain the following cross liability endorsement:

"It is agreed that the inclusion of more than one (1) insured under this policy shall not affect the rights of any insured as respects any claim, suit or judgment made or brought by or for any other insured or by or for any employee of any other insured. This policy shall protect each insured in the same manner as though a separate policy had been issued to each, except nothing herein shall operate to increase the insurer's liability beyond the amount or amounts for which the insurer would have been liable had only one (1) insured been named."

17.02 If during the term of this Contract changed conditions or other pertinent factors should in the reasonable judgment of the City render inadequate the insurance limits or coverages, the Contractor will furnish on demand such additional coverage as may reasonably be required under the circumstances. All such insurance shall be at the City's expense under valid and enforceable policies, issued by insurers of recognized responsibility which are well-rated by national rating organizations and are acceptable to the City.

17.03 All policies shall name the Contractor as the insured except as otherwise stated and shall be accompanied by a commitment from the insurer that such policies shall not be cancelled, or reduced without at least thirty (30) days' prior written notice to the City. Certificates of insurance evidencing such coverage shall be submitted to the Finance Department, Voucher Audit Section, 612 City-County Building, Detroit, Michigan 48226, prior to the commencement of performance under this Contract and at least fifteen (15) days prior to the expiration date of expiring policies.

17.04 If any work is sublet in connection with this Contractor, the Contractor shall require each subcontractor to effect and maintain the types and limits of insurance as requested by the City and shall require documentation of same, copies of which documentation shall be promptly furnished the City.

17.05 The Contractor shall be responsible for payment of all deductibles contained in any insurance required hereunder. The provisions requiring the Contractor to carry the insurance required under this Article shall not be construed in any manner as waiving or restricting the liability of the Contractor under this Contract.

18. TIME OF STARTING AND COMPLETING WORK

Upon approval and confirmation of the executed Contract, the Recreation Department will issue a written notice to the Contractor stipulating the date on which the Contractor shall start work at the site. The Contractor shall, thereafter, carry on his operations, in accordance with the provisions of Article 3 of the Agreement, so that the entire work will be fully completed within a total of 150 consecutive calendar days from and including the date stipulated for work to start.

The above stipulated time for fully completing the entire work has taken into account, and an allowance made for, the time normally required for a "punch list" and final clean-up, and also for inclement weather during the months in which work will be in progress.

The Contractor will be expected to so schedule his operations as to provide time for such items within the stipulated total time allowed, and under weather conditions expected to be encountered.

19. LIQUIDATED DAMAGES

The amount liquidating the damages referred to in Article 4 of the Agreement shall be \$250.00 per calendar day.

20. CONTRACT PAYMENTS

The City will make progress and final payments in accordance with the provisions of Article 7 and 8 of the Agreement. Progress payments will include an allowance for materials stored at the site.

Payments will be made @ 90% value with 10% retainage per the provisions indicated in the General Conditions.

21. FEDERAL REGULATIONS

NOT USED

22. INFORMATION TO BE SUBMITTED WITH BID

The Proposal requires certain information in addition to the price bid, to be furnished by the Bidder and submitted as part of his proposal. The Bidder is directed to Article 8D of the Standard Instructions to Bidders for general instruction as to how such information is to be submitted.

The Bidder is cautioned that any information, in whatever form submitted with his bid, which in any way modifies or changes the stipulated Contract provisions, may cause the rejection of the proposal. A bid will become conditional and unacceptable should a Bidder include with his proposal either intentionally or inadvertently, standard brochures, sales agreements, etc., containing contractual provisions differing substantially from those set forth in the Contract Documents, unless the Bidder definitely and positively indicates that such provisions are not part of his proposal.

23. CHANGES TO STANDARD CONTRACT DOCUMENTS

A. Federal References

Whenever the term "Administrator, Housing and Home Finance Agency" occurs in the Specifications, this shall be changed to read: "Secretary of Housing and Urban Development," and the term "Housing and Home Finance Agency" shall be changed to: "Department of Housing and Urban Development."

B. City References

- I. Whenever the "Environmental Protection and Maintenance Department" is referred to, this shall be changed to read, "Department of Public Works."
- II. Whenever "City Engineer" is referred to, this shall be changed to read, "Director, Recreation Department."

24. PRE-PERFORMANCE CONFERENCE

Before the starting notice is issued, the City Engineer will call conference for the purpose of discussing the labor standards provisions of the Contract. The conference shall be attended by the prime contractor, subcontractors and by representatives of the City.

25. SUBCONTRACTS

a) The Contractor shall not execute an agreement with any subcontractor or permit any subcontractor to perform any work included in this Contract, until he has submitted a Non-Collusion Affidavit from the subcontractor in substantially the form shown on the attached sheet, and has received written approval of such subcontractor from the City.

b) No proposed subcontractor shall be disapproved by the City without cause.

26. ACCIDENT PREVENTION

a) The Contractor shall exercise proper precaution at all times for the protection of persons and property and shall be responsible for all damages to persons or property, either on or off the site, which occur as a result of his fault or negligence in connection with the prosecution of the work. The safety provisions of applicable laws and building and construction codes shall be observed and the Contractor shall take or cause to be taken such additional safety and health measures as the City may determine to be reasonably necessary. Machinery, equipment and all hazards shall be guarded in accordance with the safety provisions of the "Manual of Accident Prevention in Construction", published by the Associated General Contractors of America, Inc. to the extent that such provisions are not in conflict with applicable local laws.

b) The Contractor shall maintain an accurate record of all cases of death, occupational disease, and injury requiring medical attention or causing loss of time from work, arising out of and in the course of employment on work under the Contract. The Contractor shall promptly furnish the City with reports concerning these matters.

27. WORKING AREA

The Contractor shall confine his working area to that which is shown on the Drawings.

28. HOURS OF WORK

From a construction standpoint alone, the Contractor may normally prosecute the work during the daylight hours of any week day, providing that he so conducts his operations as not to create a public nuisance or disturb the peace. However should the Contractor be stopped by order of public authority from such times that are contrary to or in violation of any law, ordinance, permit, or license, the Contractor shall not be entitled to an extension of time due to such stoppage.

At the beginning of work on this Contract, the Contractor shall notify the Engineer in writing the days and hours thereof which shall be considered the normal work week. Whenever the Contractor intends to depart from his normal work week, he shall notify the Engineer at least 24 hours in advance of the contemplated change so that the Engineer may make the necessary arrangements to have required inspectors assigned to the work. Failure of the Contractor to give such timely advance notice may be cause for the Engineer requiring the removal or uncovering of the work performance during such time without the Engineer's knowledge.

In an emergency, requiring work to be performed outside the normal working hours of the normal work week schedule, to save or protect life or property, the requirements of the 24-hour notification will be waived. The Contractor shall notify the Engineer as soon as the Contractor has determined that an emergency exists necessitating a change in or extension of the normal hours of work. However, the Contractor's determination of the existence of an emergency is subject to review and revision by the Engineer.

The normal work week schedule and/or daily work hours of work shall be mutually reviewed by the Contractor and the Engineer at such times as directed by the Engineer when, in his judgment, revision of work hours may be necessary to maintain the required progress of work.

When the Contractor elects to conduct his work operations in excess of eight hours per day or on Saturday and/or Sunday, he shall bear overtime costs incurred by the City of Detroit for City personnel assigned to the project on these dates.

A schedule of the current City of Detroit employee holidays is listed below. This list reflects the current fiscal year's holidays and will be amended or updated when necessary. Should the Contractor elect to work on these scheduled holidays he shall be obliged to pay any additional expenses, above the normal eight hours of City of Detroit employee holiday pay.

The following are the current holidays: New Year's Day, Martin Luther King's Birthday, Good Friday (four hours), Memorial Day, Independence Day, Labor Day, Day after Thanksgiving, Election Day, Veterans Day, Thanksgiving Day, Christmas Eve, Christmas Day, New Year's Eve. The Contractor shall be responsible for confirming with the City Engineering Department, 9th Floor, Cadillac Tower Building, any amendments to this list of calendar dates designated as paid holidays for City of Detroit employees.

Payment due the City of Detroit by virtue of overtime expenses incurred by the preceding articles will be deducted from any monies due the Contractor in progress and/or final pay estimates at the unit rate per hour as indicated herein:

Contract Deductions for City of Detroit Personnel Overtime Pay

"The unit rate per hour for the purpose of overtime pay deductions, as referred in Article 9, of the General Specifications 'Hours of Work', shall be \$28.50 per hour for each individual employee for inspectors, plant, and/or laboratory personnel assigned to this project."

29. M.B.E. SUBCONTRACTOR UTILIZATION - CITY OF DETROIT ORDINANCES #559-H AND #578

In accordance with the City of Detroit Ordinances 559-H and 578, this contract requires a minimum of 10% of the total contract dollar amount to be subcontracted to an M.B.E. firm(s) if the prime contractor subcontracts any work. The M.B.E. firm(s) must be certified by the Contract Compliance Division of the Finance Department of the City of Detroit prior to the actual date of the bid opening. The Contractor must specify the name of the M.B.E. firm(s), the percentage of the total contract price to be subcontracted to the M.B.E. firm(s), and the dollar amount of the subcontract(s). This information must be submitted with the bid on the M.B.E. Subcontractor Data Sheet. The signature of the prime Contractor is required upon submission. The M.B.E. signatures are required upon notification by the City. Bids that do not contain the required M.B.E. information listed above shall be deemed non-responsive and ineligible for award.

30. SANITARY FACILITIES

The Contractor shall furnish, install and maintain ample sanitary facilities for the workmen. As the needs arise, a sufficient number of enclosed temporary toilets shall be conveniently placed as required by the sanitary codes of the State and Local Government. Drinking water shall be provided from an approved source, so piped or transported as to keep it safe and fresh and served from single service containers or satisfactory types of sanitary drinking stands or fountains. All such facilities and services shall be furnished in strict accordance with existing and governing health regulation.

31. REVIEW BY CITY

The City, its authorized representatives and agents, shall, at all times, have access to and be permitted to observe and review all work, materials, equipment, payrolls, personnel records, employment conditions, and other relevant data and records pertaining to this Contract, provided, however, that all instructions and approvals with respect to the work will be given to the Contractor only by the City through its authorized representatives or agents.

32. AFFIRMATIVE ACTION - INFORMATION TO BIDDERSA. CONTRACTS UNDER \$100,000

If the Contractor intends to utilize subcontractors, he shall make efforts acceptable to City to solicit minority subcontractors to bid and perform on his project. Assistance in this matter can be obtained from:

Association of Minority Contractors
10711 West McNichols
Detroit, Michigan 48221
(313) 862-0990

Attention: Roland Bryant, President
and

Michigan Minority Business Development Council
2990 West Grand Boulevard
Detroit, Michigan 48202
(313) 873-3200

Attention: Sheila Roger Philpot, Executive Director

B. CONTRACTS OVER \$100,000

If the Contractor intends to utilize subcontractors, he shall make efforts acceptable to City to solicit minority subcontractors to bid and perform on this project. Such effort may include, but not limited to, contracts with minority contractor organizations (such contracts shall be in person) and affirmative action steps taken to accomplish minority Contractor involvement (e.g. split contracts mini-contracts, etc.)

Two minority Contractors organizations located in this area are:

Association of Minority Contractors
10711 West McNichols
Detroit, Michigan 48221
(313) 862-0990

Attention: Roland Bryant, President
and

Michigan Minority Business Development Council
2990 West Grand Boulevard
Detroit, Michigan 48202
(313) 873-3200

Attention: Sheila Roger Philpot, Executive Director

All bidders who anticipate using subcontractors on this project shall submit evidence with their bids that acceptable efforts as minority subcontractor solicitation have been made.

33. SECTION 3 CLAUSE

NOT USED

34. AUDIT ACCESS

If applicable, the Contractor shall keep and maintain all books, records and other documents relating directly to the receipt and disbursement of the corpus and any duly authorized representatives of the Secretary of the United States Department of Housing and Urban Development or Comptroller General of the United States shall, at all reasonable times, have access to and the right to inspect, copy, audit and examine all such books, records and other documents of the Contractor until three (3) years after the completion of all closeout procedures respecting the use of such funds, and until the final settlement and conclusion of all issues arising out of the use of such funds.

35. COMPLIANCE WITH CLEAN AIR AND WATER ACTS

If applicable, the Contractor agrees to comply with all applicable standards, orders or requirements issued under Section 306 of the Clean Air Act (42 U.S.C. 1857 (h)), Section 508 of the Clean Water Act (33 U.S.C. 1368), Executive Order 11738, and Environmental Protection Agency regulations (40 CFR Part 15).

The Contractor agrees to report violations to HUD and the U.S.E.P.A. Assistant Administrator for Enforcement (EN-329). The Contractor recognizes mandatory standards and policies relating to energy efficiency which are contained in the State energy conservation plan issued in compliance with the Energy Policy and Conservation Act (P.L. 94-163).

36. RETAINAGE REQUIREMENT STATE ACT 524 OF 1980

Notwithstanding anything contained herein to the contrary, if not in conflict with federal law or regulation, the following terms and conditions shall apply to this Contract to the extent required by Act No. 524 of Public Acts of 1980 (the "Act"):

- (a) As provided in the Act, the following persons are hereby designated to receive and submit, respectively, the requests for progress payments:

(i) For the City: Chief of Landscape Architecture

(ii) For the Contractor:

- (b) The following person is hereby designated as the "Architect of Professional Engineer": Chief of Landscape Architecture, City of Detroit.

- (c) The City shall retain a portion of the progress payments otherwise due to the Contractor (The Retainage) as follows:
 - (i) The City shall retain (10%) of the dollar value of all work in place until work is fifty percent (50%) in place.
 - (ii) After the work is fifty percent (50%) in place, additional Retainage shall not be withheld unless the City determines that the Contractor is not making satisfactory progress, or for other specific cause relating to the Contractor's performance under this Contract. If the City so determines that the Contractor is not making satisfactory progress or other specific cause relating to the Contractor's performance under this Contract exists, the City may retain an additional amount of the progress payments otherwise due the Contractor, which additional amount shall not exceed ten percent (10%) of the dollar value of work more than fifty percent (50%) in place. In any event, the Retainage withheld by the City pursuant to the Act shall not exceed the pro rate share of the City's matching requirements, provided, however, that if the provisions of any federal or state law or regulation provide for the retention of a different amount, the provisions of such other law or regulation shall govern.
- (d) All retained funds that are deposited in a regulated financial institution pursuant to the Act shall bear interest at the rate determined by the financial institution in which the retained funds are deposited.
- (e) Each progress payment requested shall be paid by the City to the Contractor within the following time period:
 - (i) Thirty (30) days after the Engineer's or Architect's periodic Certified Payment Estimate; or
 - (ii) Fifteen (15) days after the City has received the funds with which to make the progress payment from a department or agency of the federal or state government, if any funds are to come from either of these sources.

In event that the City fails to make a progress payment within the above stated period of time, and upon request by the Contractor to pay a reasonable interest charge, the reasonable interest rate payable by the City shall be six percent (6%). Interest will begin to accrue only on the thirty-first (31st) day, if payment was due according to paragraph (1) above, or on the sixteenth (16th) day if payment was due according to paragraph (2).

The actual "date of payment" of a progress payment shall be deemed to be the date on the check issued by the City for such payment.

- (f) If at any time during the term of this Contract a dispute arises between the City and the Contractor as to whether there has been a delay for reasons that were within the control of the Contractor, or as to the period of time that such delay for reasons that were within the Control of the Contractor; or if at any time after ninety-four percent (94%) of work under the Contract is in place, a dispute between the City and the Contractor arises as to whether there has been an unacceptable delay by the Contractor in performance of the remaining six percent (6%) of work under the contract; the City and the Contractor agree to

submit the foregoing disputes to the decision of an agent, at the option of the City and in accordance with provisions of the Act. The City and the Contractor shall bear equally all costs of the agent to whom a dispute is submitted for a decision, which decision shall be made by the agent pursuant to, and in accordance with, the provisions of the Act.

37. **UTILIZATION OF SMALL AND MINORITY BUSINESSES**

Qualified small and/or minority business enterprises shall have the impracticable opportunity to participate in the performance of this contract.

38. **EQUALIZATION FACTOR**

In accordance with Ordinance No. 52-H as amended, any Detroit-based firm shall be deemed a better bid than the bid of any competing firm which is not Detroit-based, whenever the bid of such competing firm shall be equal to or higher than the bid of the Detroit-based firm after the appropriate equalization percentage credit from the equalization allowance table has been applied to the bid of the Detroit-based firm.

Equalization Allowance Table

<u>Contract Amount</u>	<u>Equalization Percentages</u>
Up to \$10,000.00	10%
\$10,001.00 to \$100,000.00	8%
\$100,001.00 to \$500,000.00	6%
\$500,001.00 to \$1,000,000.00	4%
\$1,000,000.01 - and over	1%

The Equalization Allowances are non-cumulative. Indicate your Detroit-based address on the Signature Sheet. Proof of eligibility may be requested and shall be provided within 10 days of notice.

39. **MICHIGAN DEPARTMENT OF LABOR REGISTER**

In accordance with Michigan Public Act No. 278 of 1980, if any proposed Contractor, Subcontractor, Manufacturer or Supplier appear in the register compiled by the Michigan Department of Labor pursuant to Act No. 278 of 1980, the City reserves the right to reject proposed Subcontractor Manufacturer or Supplier.

40. A Construction Manager will be employed by the City of Detroit for Mt. Elliott Park. The Construction Manager may or may not be on board before the Seawall edge Phase One Contract is awarded. The Contractor awarded the Phase One work is required to coordinate his/her work with the Construction Manager and all future phases.

END OF SPECIAL NOTICE TO BIDDERS SECTION

1. GENERAL PURPOSE AND INTENT

These Standard Instructions to Bidders, bearing the above date of adoption, contain information and requirements which, in general, are common to all Contract Documents prepared by the City Engineer's Office of the City of Detroit in which these instructions are included. Such instructions and requirements apply to this Contract except as such may be modified and supplemented by specific instructions and requirements pertaining to this Contract contained elsewhere in these Contract Documents.

In addition to these instructions, the Advertisement and Special Notice to Bidders also contain information to bidders.

No effort is made to emphasize any particular provision of the Contract Documents, but bidders must familiarize themselves with every provision and its effect.

2. THE CONTRACT DOCUMENTS

The Contract Documents consist of the following, grouped as listed below:

PART I

- Advertisement
- Special Notice to Bidders
- Standard Instructions to Bidders
- Proposal
- Agreement
- Performance Bond
- Payment Bond
- General Conditions

PART II

- General Specifications
- Detailed Specifications

PART III

- Contract Drawings, if any, when so stated in the "Special Notice to Bidders"

In addition to the above, any and all Bulletins issued become a part of the Contract Documents.

An "Abridged Table of Contents", bound in the front of Part I, lists the individual parts by title, gives the code letters or numbers used to designate the pages in each individual part, and indicates the total number of pages in each part. When Contract Drawings prepared by the City Engineering are included, the individual drawing titles and numbers are also here listed.

A "Table of Contents" for both Parts I and II further lists, by title and page number, the major subdivisions for each individual part.

In the process of assembling and binding the Contract Documents, individual pages or drawings may have been inadvertently omitted. Each bidder shall carefully and thoroughly examine his copy of the Contract Documents for completeness, for no claim of any bidder will be allowed on the basis that his copy of the Contract Documents was incomplete.

Titles, sub-titles, headings, running heads, and tables of content as used throughout the Contract Documents, are merely convenience and in themselves are not a Contract provision or requirement and are not to be taken into account in any way in construing any of the rights or obligations of the parties to the Contract.

3. INTERPRETATION OF CONTRACT DOCUMENTS

Should any prospective bidder be in doubt as to the true meaning of any portion of the Contract Documents, or should he find any patent ambiguity, inconsistency, or omission thereon, he shall request the City Engineer, in writing, for an official interpretation or correction. The person making the request will be held responsible for its prompt delivery.

Such interpretation or correction, as well as any additional Contract provision the City may decide to include, will be made only as a Bulletin which will be mailed or delivered to each person recorded as having received a copy of the Contract Document. Any Bulletin issued by the City Engineer shall become a part of the Contract Document and shall be taken into account by each bidder in preparing his bid.

Only the Bulletin duly issued by the City Engineer shall be binding, and prospective bidders are warned that no oral interpretation, information, or instructions by any officer or employee of the City is authorized.

4. BIDDER'S QUALIFICATION

Bids are solicited only from responsible bidders known to be skilled and regularly engaged in work of similar character and proportion to that covered by the Contract Documents.

After the opening of bids, when so requested by the City Engineer, the bidder shall promptly submit a certified written statement setting forth such information as the City may require concerning his prior experience and performance record, other work now under contract, financial condition, personnel and qualifications of his working organization, available equipment, and the major parts of the work proposed to be sublet.

In addition to the above, and when so requested by the City Engineer, the bidder shall meet with the City's representatives and give further information in relation to its proposed tentative construction plan and schedule of operations, and such other matters as the City may deem necessary in order to determine the bidder's qualifications, responsibility, and ability to perform and complete the work in accordance with the Contract requirements.

5. BIDDER'S EXAMINATIONS AND INVESTIGATIONS

The prospective bidder shall carefully and thoroughly examine all parts of the Contract Documents and all maps, drawings, and other data mentioned therein as being on file in the City Engineer's Office for examination.

The bidder shall make an inspection of the site of the proposed work, as well as its adjacent area, and determine for himself all conditions under which he will be obliged to work.

The submission of a proposal shall, in itself, be conclusive evidence that the bidder has made all examinations and investigations he deemed necessary to properly prepare a proposal meeting all Contract requirements.

No plea of ignorance of conditions that may exist or that may hereafter exist, or of difficulties that may be encountered in the execution of the work under this Contract, as a result of the bidder's failure to make prudent examinations and investigations will be accepted as an excuse for any failure or omission on the part of the Contractor to fulfill in every detail all requirements of the Contract Documents, or will be accepted as a basis for a claim for extra compensation, damages, or for an extension of the time of completion.

6. LABOR AND MATERIALS

The City of Detroit will not furnish any labor, materials, or supplies unless specifically provided for in the Contract.

A. Labor: The bidder's attention is directed to a resolution adopted by the Common Council of the City of Detroit on May 6, 1947, regarding the use of Detroit Labor on construction projects:

"Resolved That all City Departments be and they are hereby instructed to insert a clause in all specifications for the erection of buildings or other construction work, or for the purchase of any and all commodities made in the City of Detroit, that Detroit labor must be employed whenever possible. Provided, that this limitation shall not apply to the purchase of materials and other supplies from persons operating outside the City of Detroit; and further

Resolved, That the resolution of January 20, 1931, J.C.C., page 124, covering this same subject, be and the same is hereby rescinded insofar as it conflicts with this resolution."

These provisions are to be taken into account by the bidder in preparing his bid on this Contract.

The bidder shall make his own investigation as to the availability of labor needed and the wage rates, which will have to be paid in the prosecution of the Contract. No claim for extra cost or damages shall be made or allowed because of shortage of the required labor or any change in the wage rates which the Contractor is required to pay.

B. Materials: All materials and equipment incorporated in the work of this Contract shall be new. No secondhand or salvaged materials or equipment will be permitted unless specifically specified.

C. Availability of Materials: The specified time of completion is based upon the availability of the required materials. It will be assumed by the City that each bidder will have made his own investigation and determination of the probable availability of the required materials in the amounts and at the times necessary to complete the work within the time allowed for completion.

If, during construction, certain materials cannot be obtained in the quantities and/or at time necessary to complete the work within the time allowed, then an extension of time of completion will be considered in accordance with the provisions of Article 18, "Delays and Extension of Time", of the General Conditions provided:

- (a) The materials which in the judgment of the Engineer were properly determined to be available at time of bidding, become unavailable during construction;
- (b) Diligent efforts have been made by the Contractor to secure the materials;
- (c) The Engineer has been notified sufficiently in advance so that available substitutions could have been considered.

Delay in securing any specific materials shall not be used as the basis for delaying the construction of other parts of the work not dependent upon such delayed materials.

7. BASIS OF BID - PRICE REQUIRED

The Special Notice to Bidders designates the basis on which the price or prices are required. Such price or prices are to be submitted in accordance with the following provisions such as are applicable to the basis designated for this Contract.

In arriving at the price or prices bid, the bidder shall make his own estimates of the facilities and difficulties attending the performance of the proposed Contract, including local conditions, availability of materials, uncertainty of weather, and all other contingencies. It is the intent of the Contract Documents to provide for finished work and any miscellaneous items clearly necessary to this end shall be considered a Contract requirement whether or not specifically included in the Contract Documents.

A. Single Lump Sum Price: When proposals are invited on the basis of a lump sum price for the entire work included in the Contract, then only a single lump sum price shall be submitted.

B. Lump Sum Price for All or Parts of the Work: When proposals are invited on the basis of a lump sum price for the entire work included in the Contract with the option for separate bids on designated parts of the work, the bidder may submit a lump sum price for the entire work and or separate lump sum prices for such of the designated parts he is qualified to perform.

C. Lump Sum Prices for Designated parts of the Work: When proposals are invited on the basis of separate lump sum prices designated for parts of related work with no provision for a single lump sum price for the entire work, the bidder may submit a lump sum price for each of the designated parts he is qualified to perform. No price shall be submitted for doing the entire work, or combination of parts thereof, as a single contract.

D. Lump Sum Price - Two or More Independent Contracts: When the Proposal is common to two or more Contracts for work which is distinctly separated but of the same general type, the bidder may submit a lump sum price for such Contracts as he selects, with the Proposal for each Contract to be considered independently. Unless the Proposal otherwise provides, it will be understood that the bidder considers himself qualified to perform concurrently each of the Contracts for which he submits a price and to perform each in accordance with its own specific Contract requirements.

When the Proposal so provides, a bidder, whose capacity for doing concurrent work prevents him from accepting all the contracts on which he may desire to submit proposals, may submit a lump sum price on such contracts as he selects with the understanding that he would be awarded only the total number of contracts which he stipulates in the Proposal that he has the capacity to accept and perform concurrently. However, the bidder shall not designate which particular contract or contracts he would accept in event he is the low bidder on more contracts than he has the capacity to perform concurrently. The determination of on what contract or contracts a bidder is considered to have submitted the actual low bid or bids will be made by the City on the basis of the bids which will result in the entire work of all contracts being done for the least cost to the City.

When the Proposal so provides, and not otherwise, the bidder may submit a lump sum price for doing as a single contract all the work of the individual contracts in such combination as listed in the Proposal.

E. Unit Price: When Proposals are invited on the basis of unit prices for various items, the bidder shall state a unit price for each and every item listed in the Proposal form, and such prices shall be extended and totaled. If, during the review of the Proposals, the City finds any errors in any extension or total, the City will make the necessary corrections and award the Contract on the basis of such corrections, since the unit prices shall govern. Any proposal which does not contain a unit price for each item listed will be deemed incomplete and will not be considered in the award of the Contract.

Any work not specifically mentioned in the payment items listed in the Proposal shall be considered incidental to one or more of the payment items, and no claim for additional compensation will be allowed. The bidder shall not add to the listed items, or combine any of the items.

The quantities for the various items of work appearing in the Proposal, while stated with as much accuracy as possible in advance, are approximate only and given solely to provide a uniform basis for comparing bids and determining the amounts of the bonds. The actual quantities required to complete the work and for which payment will be made, may be more or less than those stated in the Proposal, and, if so, no claim for damages or loss of profits will be allowed.

The unit price for each of the several items in the Proposal shall include its pro rata part of overhead and be such that the whole of the unit prices will represent a balanced bid. Any proposal in which the unit prices bid for any of the several items are deemed by the City to be manifestly unbalanced may be rejected by the City and not considered in the award of the Contract and may cause the entire bid to be rejected.

F. Alternate Bids: When the Proposal so provides, a price shall be stated for each listed alternate. Unsolicited alternate are not to be submitted and, if so, will not be considered in the award of the Contract and may cause the entire bid to be rejected.

8. PREPARATION OF PROPOSALS

Proposals shall be carefully prepared in strict accordance with the Contract requirements and these instructions, otherwise the bid may be rejected and not considered in the award of the Contract.

A. Form: The bank form of Proposal supplied by the City shall be used. The form shall not be detached, but shall be submitted intact as originally bound. No change shall be made in the wording of the form or in any of the items mentioned therein, nor shall any special conditions be made or included as part of the bidder's proposal. Proposals shall be filled out legibly in ink. Erasures or other changes in the bid shall be explained or noted over the signature of the bidder.

B. State of Prices: The price or prices bid shall be stated in figures only and in the proper space or spaces provided in the Proposal form.

C. Evaluated Bid: When the Proposal provides for evaluated bids, full information shall be supplied and computations shall be made by the bidder in accordance with the manner and method provided for in the Proposal. If, during the review of the Proposals, the City finds any errors in the bidder's computation, the City reserves the right to make the necessary corrections, including the changing of any values used in the computation found to be a variance with basic information or data furnished by the bidder. When information is required to supplement the statements made by the bidder, it shall be furnished in accordance with the next following section.

D. Information Required: When the Special Notice to Bidders or the Proposal form so requires, certain information, in addition to the price bid, shall be furnished as part of the bidder's proposal. Failure of the bidder to submit the required information or the submission of the information in an inaccurate or incomplete form may be cause for rejection of the entire Proposal.

1. Bidder's Drawings and Specifications: When bidder's drawings and/or specifications are required to be submitted, they shall be in sufficient detail to fully and distinctly show and describe the equipment which the bidder proposes to furnish, including the kind and quality of the material and workmanship that will be used in the various parts. If any general drawings, specifications, catalogs, or other literature are submitted which contain information or data not pertaining to the particular equipment proposed to be furnished, appropriate notations to that effect must be made.

2. Other Information: When the Proposal form provides space for inserting required information, such space is to be used. If the bidder finds such space insufficient, then the required information may be submitted on separate sheets properly identified as part of the bidder's proposal.

3. Supplemental Information: The bidder may submit such supplemental information as he may desire, describing the equipment he proposes to furnish. However, the bidder is to completely fill out the Proposal form even though some of the information required to be stated in the Proposal may be contained in the supplemental information furnished.

E. Conditional Bids: Any stipulation or qualification contrary to the Contract requirements made by the bidder in or accompanying his proposal as a condition for the acceptance of the Contract will not be considered in the award of the Contract and may cause the rejection of the entire Proposal.

F. Waiver: The bidder's attention is called to the paragraph in the Proposal headed "Waiver". This is included for the purpose of avoiding any controversy over the claim of any bidder of the right to refuse to execute the Contract and demand the return of his bid deposit on the grounds of error, mistakes, or omissions made by him in his Proposal.

G. Name, Legal Status, and Bidder's Signature: Each bid shall contain on page P.4 of the Proposal form, the following information inserted in the respective places provided therefor:

- a) Full business name of bidder together with Federal Treasury number.
- b) Business address.
- c) Signature of bidder. The person signing the Proposal shall use his usual signature, followed by his name legibly printed on the line next below.
- d) Date of proposal.

The following are additional requirements, according to the bidder's legal status:

Individual

- a) Legal status - place "X" in box for "Individual".
- b) Home address and Social Security number.

A bid by a person who adds to his signature the word "President", "Partner", "Agent", or other designation, without disclosing his principal, may be held to be the bid of the individual signing.

Doing Business Under An Assumed Name

- a) Legal status - place "X" in box for "Doing business under an assumed name" together with Federal Treasury number.
- b) County in Michigan in which assumed name is registered.
- c) Home address of individual and Social Security number.

Co-Partnership

- a) Legal status - place "X" in box for "Co-partnership".
- b) County in Michigan in which co-partnership is registered.
- c) Names and home address of all partners, together with Social Security numbers.
- d) Signature of one of the partners, followed by the word "Partner" on the line "Title".

Corporation

- a) Legal status - place "X" in box for "Corporation".
- b) Name of state under whose laws the corporation is incorporated.
- c) If not a Michigan corporation - indicate by "X" in appropriate box if the corporation is licensed to do business in Michigan. An out-of-state corporation will be required to have such license at the time the Contract is executed.
- d) Full names, titles, and home addresses of corporation officers, and Social Security numbers.
- e) Signature of authorized officer of corporation, followed by his title.
- f) Corporate seal affixed.
- g) "Certificate" for signature and seal - page P.5 of Proposal - shall be executed by an officer other than the one signing the Proposal.

Agent

If the bid is signed by an individual acting as an agent for the principal in whose name the Proposal is submitted, the addition to the above applicable requirements, there shall be attached to the Proposal a power-of-attorney evidencing authority of the individual to sign and submit the bid in the name of the designated principal.

9. BID DEPOSIT

When the Advertisement states that the security is required with the Proposal to insure the acceptance and execution of the Contract and Bonds, no bid will be considered complete unless so guaranteed.

A. Amount: The amount of the bid deposit shall be not less than that stipulated in the Advertisement. In case the Proposal contains alternates, the amount of the bid security, if stated as a percentage of the bid, refers to the Base Bid. If the Proposal contains two or more Contracts, the amount of the bid security required is determined on the total amount of the bids for such Contracts for which bids are submitted.

B. Form: The bidder, at his option, may furnish either a certified check, bank draft, irrevocable bank letter of credit, or guaranty (bidder's) bond. If the bid deposit covers two or more contracts contained in the same Proposal form, one check, draft, irrevocable bank letter of credit, or guaranty bond may be used if properly identified to cover all contracts for which a bid is submitted. Cash deposits will not be accepted.

Check: The certified check or bank draft shall be drawn on a solvent bank and made payable without condition to the "Treasurer, City of Detroit".

Irrevocable Bank Letter of Credit: The irrevocable bank letter of credit shall be drawn on a solvent bank and made payable to "Treasurer, City of Detroit". The Irrevocable Bank Letter of Credit shall be given in compliance with and subject to the provisions and term of the Uniform Commercial Code which was adopted in Michigan in 1962 in Public Act 174. (Authorized by Common Council Resolution September 2, 1969, JCC 2208). The Irrevocable Bank Letter of Credit must be submitted on a form acceptable to the City of Detroit.

Bond: The guaranty (bidder's) bond shall be on the form supplied by the City. The bond shall be executed by a surety company licensed to do business by the State of Michigan, and in accordance with the instructions contained on the bond form.

C. Submission: The bid deposit, in whichever form, shall be enclosed in the same envelope as that containing the bid and is not to be submitted separately.

D. Return: The bid deposit of all bidders may be held by the City until all bids have been canvassed and the award of the Contract recommended to and approved by the Common Council.

The bid deposit of the bidder awarded the Contract will be held until the Contract is duly executed and confirmed. The bid deposits of other than the successful bidder will be returned after the award has been made by the Common Council.

E. Forfeiture: If the bidder to whom the contract is awarded, refuses or neglects to properly execute the Contract, or fails to furnish the required surety bonds, within 10 calendar days after written notice to him, the amount of the deposit shall be forfeited, and retained by the City of Detroit as liquidated damages.

10. SUBMITTING BID

A. Form: The Bid Documents containing the Proposal, together with the required bid deposit, shall be securely sealed in a suitable envelope clearly labeled as a bid identified by the Contract number stated in the Advertisement, and showing the bidder's name, so as to guard against premature opening.

B. Place and Time: Bids will be received during the regular business hours at the place and up to the time stated in the Advertisement, or up to the time as extended by Bulletin. Bids may be delivered in person or mailed, but delivery is the bidders' entire responsibility. Any bid received after the stated hour, even through the mail, will be returned unopened to the bidder.

C. Withdrawal: Bids received prior to the scheduled time for receipt of bids will be kept securely, unopened. No bid after being received by the City will be returned to a bidder prior to the opening of bids. After the opening and reading of the bids, no bid may be withdrawn before the expiration of the number of days specified in the Advertisement, and then only in writing and in advance of the actual award. Negligence on the part of the bidder in preparing the bid confers no right for the withdrawal of the bid before or after it has been opened.

D. Modifications: No bid after being submitted may be modified or changed by letter, telegram, or other means, and if any such modification is received by the City, it will not be considered in the award of the Contract. No bidder will be permitted to submit more than one bid.

11. OPENING OF BIDS

All bids received will be publicly opened and read aloud promptly after the designated time at the place stated in the Advertisement or as extended by Bulletin, and bidders are invited to be present.

12. COMPARISON OF BIDS

A. Lump Sum Bids: Bids on lump sum contracts will be compared on the basis of the lump sum price bid, adjusted for alternate prices bid if any are called for in the Proposal.

B. Unit Price Bids: Bids on unit price contracts will be compared on the basis of a total estimated price, arrived at by taking the estimated quantities of each item state in the Proposal, multiplied by the corresponding unit prices bid, and including any lump sum bids on individual items. Any errors found in the bidder's extensions or addition will be corrected, since the individual unit prices govern, and the total estimated price will be adjusted accordingly.

C. Evaluated Bids: Bids on a evaluated basis will be compared on the basis of the net evaluated bid price. Any errors found in the bidder's computation will be corrected and the net evaluated bid price adjusted accordingly. The Contract, if awarded, will be awarded at the bid price to the responsible bidder having the lowest net evaluated bid price.

13. REJECTION OF BIDS

The City of Detroit reserves the right to reject any and all bids or to waive any irregularity in any bid should be deemed for its best interest so to do. Without being limited thereto, a bid may be rejected if:

- a) The Proposal does not strictly conform to the requirements of the Contract Document or law;
- b) The Proposal contains unit prices which, in the judgment of the Engineer, are unbalanced;
- c) The Proposal is conditional;
- d) The bidder mis-states or conceals any material fact in the bid;
- e) The bidder fails or refuses to promptly furnish the City information requested as to his qualifications and responsibility;
- f) A determination is made by the City that the bidder is not qualified or responsible to perform the work.

14. AWARD OF CONTRACT

The Contract will be awarded to the lowest responsible bidder complying with the requirements of the Contract Documents, provided his bid is reasonable and the best interest of the City of Detroit will be served by accepting it. The Contractor will not be subdivided among two or more bidders unless the Proposal provides for separate bids on designated parts of the work, and then only when the total of the lowest reasonable bids for the individual parts is less than the lowest responsible bid for the entire work when a combined bid is permitted.

The Contractor will be deemed to be awarded after the formal approval of the Common Council if the City of Detroit has been obtained, and written notice by the City has been sent to the intended awardee. The Contract will not, however, be valid or binding upon the City until the Contract Agreement has been duly executed by both parties, the required Surety Bonds furnished, and the executed Contract Documents have been endorsed and confirmed in accordance with the City of Detroit Charter.

15. CONTRACT EXECUTION

The bidder to whom the Contract is awarded, shall within 10 calendar days after the Contract forms are presented to him, enter into written contract with the City by properly executing the Agreement and furnishing the required Performance Bond and Payment Bond and other information and affidavits as are required by and in strict accordance with the City's instructions accompanying the Contract forms.

Any delay by the successful bidder beyond the ten calendar days stipulated for submitting to the City Engineer in complete and acceptable form and number, the Agreement, Bonds, and other required information and affidavits, will cause a like number of calendar days being deducted from the total time stipulated for fully completing the work.

This provision in no way affects the rights of the City to require forfeiture of the bid deposit as provided for in Article 9E.

16. BOND REQUIREMENTS

The successful bidder to whom the Contract is awarded shall furnish at his own expense and at the time he submits his executed copies of the Contract, surety company bonds, on forms furnished by the City, conforming to the applicable statutes of the State of Michigan in effect at the time of the date of the bonds, as follows:

- a) Performance Bond, to insure the construction and completion of the entire work according to the requirements of the Contract and within the time allowed.
- b) Payment Bond, for the protection of claimants supplying labor and materials to the principal contractor or his subcontractors in the prosecution of the work.

Each bond shall run to the City of Detroit, Michigan, and each bond shall be in the full amount of the Contract price unless otherwise specified in the Special Notice to Bidders.

The surety company or companies shall be a) satisfactory to the City, b) shall be listed in the latest issue of U.S. Treasury Form 570, and c) shall be licensed to do business in the State of Michigan as evidenced by a copy of the "Certificate of Authority" issued by the Michigan State Department of Insurance filed with the Director. Should any surety upon the Contract be deemed unsatisfactory at any time to the City, notice will be given to the Contractor to that effect by the City, and the Contractor shall forthwith substitute a new surety or sureties satisfactory to the City and without any additional cost to the City.

An executed copy of each bond will be required for each copy of the executed Contract. The date of the bonds shall be the same as the date of the Contract.

17. ASSIGNMENT OF CONTRACT

Bidder's attention is directed to Article 29 of the General Conditions, "Assignment". The City will not consider the ASSIGNMENT or transfer of the Contract unless an exigency occurs which was not known or could not have been foreseen by the bidder at the time of bidding. No assignment or transfer will be approved which is not in the best interest of the City.

18. SUBCONTRACTS

The bidder's attention is directed to Article 28 of the General Conditions, "Subcontracts". No portion of the work may be sublet without the prior written approval of the City. Bids shall be based on letting subcontracts, whenever possible, to Detroit companies. Subcontractors must agree to do their work in Detroit and use Detroit labor where practicable to give the kind of work specified.

When the Proposal so provides, the bidder shall name the persons or firms he proposes to use as subcontractors for such parts of the work specifically listed in the Proposal. All persons or firms so named shall be acceptable to the City of Detroit and if any are not acceptable, the bidder will be required to name other persons or firms which are acceptable. Any such required substitutions will in no way otherwise change or modify the bidder's Proposal. After the award of the Contract, no substitutions will be allowed except for reasons deemed justified by and in the best interest of the City.

GENERAL CONDITIONS

1. DEFINITIONS

The following words and expressions, or pronouns used in this stead, shall wherever they appear in this Contract, be construed as follows, unless a different meaning is clear from the context:

"Bulletin" shall mean any additional contract provisions, or change, revisions, or clarification of the Contract Documents issued in writing by the City Officer on behalf of the City, to prospective bidders prior to the receipt of bids.

"City" shall mean the City of Detroit, a municipal corporation, party of the first part, acting through that Official, Board, or Commission named in the Agreement as acting on behalf of the City.

"Engineer" shall mean Charles S. Merz acting directly, or indirectly through his authorized representatives acting within the limits of the respective authority delegated to them.

"City Officer" shall mean the officer currently holding the office named in the Agreement as acting on behalf of the City in this Contract in accordance with the provisions of the Charter of the City of Detroit, said officer acting directly or indirectly through his authorized representatives acting within the limits of the respective authority delegated to them.

"City Council" shall mean the City Council of the City of Detroit.

"Contract" or "Contract Documents" shall mean each of the various parts of the Contract referred to in Article 1 of the Agreement hereof, both as a whole and severally.

"Contractor" shall mean the party of the second part hereto, whether corporation, firm, or individual, or any combination thereof, and its, their, or his successors, personal representatives, executors, administrators and assigns, and any person, firm, or corporation who or which shall at any time be substituted in place of the party of the second part under this Contract, and shall include in their respective capacities, the President, Manager, or other officer or agent for the time being, representing or locally managing the work of any corporation contracting herein.

"Other Contractors" shall mean any contractor, other than the party of the second part or his subcontractors, who has a direct contract with the City of Detroit for work on or adjacent to the site of the work.

"Contract Work" shall mean everything expressly or impliedly required to be furnished and done by the Contractor by any one or more parts of the Contract Documents, except "extra work" as hereinafter defined; it being understood that, in case of any inconsistency between any part or parts of this Contract, the Engineer shall determine which shall prevail.

"Extra Work" shall mean work other than that which is expressly or impliedly required by the Contract Documents at the time of the execution of the Contract.

"Drawings" or "Contract Drawings" shall mean only those drawing specifically entitled as such and as listed in the Contract, or in any Bulletin, or any detailed drawing furnished by the Engineer, pertaining or supplemental thereto.

"Implied Work" shall mean any work, except "Extra Work" that may have been omitted in the description of said work, but the use of which is implied or necessary, and shall be deemed to be included in this Contract and shall be furnished by the Contractor as if the same had been stated specifically, without any additional charge to the City.

"Inspector" shall mean any representative of the Engineer designated to inspect the work.

"Materialman" shall mean any person, firm, or corporation, other than employees of the Contractor, who or which contracts with the Contractor, or any of his subcontractors, to fabricate or deliver, or who actually fabricates or delivers, plant, materials, or equipment to be incorporated in the work.

"Notice" shall mean written notice.

"Specifications" or "Contract Specifications" shall mean all of the directions, requirements, and standards of performance applying to the work as hereinafter detailed and designated under the General Specifications and the several divisions of the Detailed Specifications.

"Site" shall mean the area upon or in which the Contractor's operations are carried on, and such other areas adjacent thereto as may be designated as such by the Engineer.

"Subcontractor" shall mean any person, firm, or corporation, other than employees of the Contractor, who or which contracts with the Contractor to furnish, or actually furnishes, labor, or labor and materials, or labor and equipment, at or about the site, but shall not include one who merely furnishes materials or equipment.

"The Work" shall mean all structures, equipment, plant, labor, materials, and facilities or things now or hereafter required to be furnished, installed, or done by the Contractor under or pursuant to this Contract, including extra work; and "performance of work" and words of similar import shall mean the furnishing, installation, or doing thereof.

"Directed", "Required", "Approved", and words of like import whenever they apply to the work or its performance; the words "directed", "required", "permitted", "ordered", "designated", "establish", "prescribed" and words of like import used in the Contract, Specifications, or upon the Drawings, shall imply the direction, requirement, permission, order, designation, or prescription of the Engineer; and "approved", "acceptable", and words of like import shall mean approved by or acceptable to the Engineer.

"Approved equal" shall mean materials, articles, or methods which have been approved by the Engineer as being equal to those specified or shown on the Drawings.

2. CORRELATION AND INTENT OF DOCUMENTS

The Contract Documents are complementary and what is called for by any one shall be binding as if called for by all. The intent of the documents, unless otherwise specifically provided, is to produce complete and finished work. No verbal conversation, understanding, or agreement with any officer or employee of the City, either before or after the execution of the Contract, shall affect or modify any of the terms, conditions, or obligations contained in the Contract Documents.

A. Contract drawings and Specifications: The City will furnish the contractor, without charge, such copies of the Contract and any Supplemental Drawings and Specifications reasonably necessary for the proper execution of the work. The Contractor shall keep on the site of the work at least one copy of all Drawings and Specifications which shall be accessible at all times to the Engineer.

Anything mentioned in the Specifications and not shown on the Drawings, or shown on the Drawings and not mentioned in the Specifications, shall be of like effect as if shown on or mentioned in both. In case of any apparent difference between the Drawings and Specifications, the Contractor shall refer the matter to the Engineer for a decision as to which, in accordance with the intent of the Contract Documents, shall govern. Procedure without such decision shall be at the Contractor's own risk and expense.

B. Supplemental Drawings and Specifications: In order to carry out the intent of the Contract Documents and to assist the Contractor in performing his work, the Engineer, after the execution of the Contract, may, by Supplemental Drawings, Specifications, or otherwise, furnish additional instructions, enlarged-scale, additional, or revised details, as may be necessary for construction purposes.

All such Supplemental Drawings, Specifications, or instructions are intended to be consistent with the Contract Documents, true developments thereof, and reasonably inferable therefrom. Therefore, no extra costs will be allowed by the City on a claim that particular Supplemental Drawings, Specifications, or instructions differ from the requirements of the Contract Documents, incurring extra costs, unless the Contractor has first brought the matter, in writing, to the City Officer's attention for proper adjustment before proceeding with the work covered by such.

If the City Officer shall decide that there is no departure from the requirements of the Contract Documents, the Contractor shall then proceed with the work as shown, specified, or directed. If the City Officer shall decide that extra work is involved, he will so modify the Supplemental Drawings, Specifications, or instructions to eliminate the extra work, or cause a City's written order to be issued in accordance with Article 19 herein.

C. Errors and Corrections in Drawings and Specifications: The Contractor shall not be allowed to take advantage of any manifest errors, omissions, or discrepancies in the Drawings or Specifications, as full instructions will be issued by the Engineer for correction in accordance with the original intent of the Contract Documents. In case of any errors, omissions, or discrepancies in the Drawings or Specifications, the Contractor shall promptly submit the matter to the Engineer who, in turn, shall promptly make a determination and issue the necessary instructions in writing. Any adjustment by the Contractor without this determination and instructions shall be at the Contractor's own risk and expense.

The work is to be made complete as intended by the Contract Documents, notwithstanding minor omissions on the Drawings and Specifications.

3. CONTRACTOR'S WARRANTIES AND UNDERSTANDING

In consideration of, and to induce the award of the Contract to him, the Contractor represents and warrants:

- a) That he is financially solvent, and sufficiently experienced and competent to perform the work; and

- b) That the facts stated in the Proposal and the information given by him pursuant to the Bidding Documents are true and correct in all respects; and
- c) That he has read, understands, and complied with all the requirements set forth in the Bidding Documents; and
- d) That he has, by careful examination, satisfied himself as to the nature, amount, and location of the work, the character of construction equipment and facilities needed to perform the work, the general and local conditions, and all other matters which may in any way affect the work under this Contract.

Unless otherwise specifically provided for in the Contract Documents, the Contractor shall do all the work and shall furnish all the tools and appliances except as herein otherwise specified, necessary or proper for the performing and completing the work required by this Contract, in the manner and within the time herein prescribed.

4. CONTRACTOR'S RESPONSIBILITIES

In addition to those matters elsewhere expressly made the responsibility of the Contractor, the Contractor shall have the full and direct responsibility for the performance of the work under this Contract. He shall take all precautions for safely conducting the work and preventing injuries or damage to persons or property on or about the work. He shall bear all losses, if any, resulting to him on account of the amount and character of the work, or because the conditions under which the work must be done are different from what were estimated or anticipated by him, or because of weather, floods, elements, or other causes. He shall assume the defense and save harmless the City of Detroit and its individual officers, employees, or agents from any and all claims arising out of the work performed or to be performed, and for any act or neglect of the Contractor, his agents or employees.

The mention of any specific responsibility or liability of the Contractor in this or in any part of the Contract Documents shall not be construed as a limitation or restriction upon the general responsibility or liability imposed on the Contractor by the Contract Documents.

5. COMPLIANCE WITH LAWS

The Contractor shall fully comply with all local, state and federal laws, ordinances, and regulations applicable to this Contract and the work to be done hereunder.

The City shall secure the general building permit. The Contractor shall secure all other permits and licenses necessary for the prosecution of the work and shall fully comply with all their terms and conditions. All required permits and licenses shall be secured by the Contractor without additional cost to the City.

It is the intent that all work required to be done under this Contract comply with the applicable permits and licenses as issued to the City and the Contractor. Should any applicable permit or license be issued with special supplemental requirements pertaining specifically to this Contract which are in variance with express Contract requirements, the Contractor shall immediately report the matter in writing, to the City Officer for determination and adjustments as may be found necessary. The City Officer will cause a written order to be issued in accordance with the Articles 19 and 20 herein covering such changes with such special supplemental conditions or requirements, unless the City Officer secures a written waiver covering the difference from the issuing department or agency.

Should the Contractor fail to observe the foregoing provisions and construct work in variance with any special supplemental requirements of the applicable permit or license pertaining specifically to the work under this Contract, or with such as amended by waiver, notwithstanding the fact that such construction is in compliance with the Drawings and Specifications, the Contractor shall remove such work without cost to the City, but the City's written order will be issued only to cover the excess cost, if any, that the Contractor would have been entitled to receive if the change had been made before the Contractor commenced work on the items involved.

Should the issuing department or agency after issuing the permit or license later require changes in the work constructed in accordance with the Drawings and Specifications, or the special supplemental requirements of such permits or licenses, the City Officer will cause a written order to be issued in accordance with the Articles 19 and 20 herein covering such changes in the work as may be necessary to conform to the later requirements.

6. PROTECTION OF WORK AND OF PERSONS AND PROPERTY

During the performance and up to date of final acceptance, the Contractor shall be under absolute obligation to protect the finished and unfinished work against any damage, loss, or injury. In event of such damage, loss, or injury, the Contractor shall promptly replace or repair such work, whichever the Engineer shall determine to be preferable. The obligation to deliver finished work in strict accordance with the Contractor prior to final acceptance shall be absolute and shall not be affected by the Engineer's approval of or failure to prohibit means and methods of construction used by the Contractor.

During performance and up to the date of final acceptance, the Contractor shall take all reasonable precautions to protect the persons and property of City and others on or adjacent to the site of the work from damage, loss, or injury from his or his subcontractors' operations under this Contract, except such property as the owners thereof may themselves be under a legal duty to protect. The Contractor's obligation to protect shall include the duty to provide, place, and adequately maintain at or about the site, suitable guards, lights, barricades, enclosures, danger signals, provide watchmen and such other facilities for protection required by public authority, local conditions, or by order of the Engineer. In an emergency affecting the safety of life or of the work or of adjoining property, the Contractor, without special instruction or authorization of the Engineer, shall take such action necessary to prevent threatened damage, loss, or injury.

Within three days after notice to him of the happening of any such damage, loss, or injury to persons, work, or property, the Contractor shall make a full and complete report thereof in writing to the City Officer.

If the persons or property of others on or adjacent to the site sustain damage, loss, or injury resulting directly or indirectly from the work of the Contractor, or his subcontractors, in the performance of this Contract, or from his or their failure to comply with any of the provisions of this Contract, or law, the Contractor shall defend, indemnify, and hold the City harmless from any and all claims and judgments to which the City may be subjected or which it may suffer or incur by reason thereof.

The provisions of this Article shall not be deemed to create any new right of action in favor of third parties against the Contractor, or the City.

7. PROTECTION FOR LABOR AND MATERIAL

The Contractor for himself or any of his subcontractors shall pay all indebtedness which may become due to any person, firm, or corporation having furnished labor, materials, or both in the performance of this Contract. The "Payment Bond" furnished by this Contract is pursuant to Act 351 of the Public Acts of Michigan for the year 1972, as it may be amended to date. It shall be the responsibility of each person, firm, or corporation claiming to have furnished labor, materials, or both, in connection with this Contract, to protect his or its interests in the manner prescribed by the Act 351.

8. INSURANCE

During performance and up to the date of final acceptance of the work, the Contractor shall effect and maintain the following types of insurance, when so required by the Standard Notice to Bidders and in amounts not less than those stated therein. Such insurance shall be carried by financially responsible insurance companies, licensed in the State of Michigan, and satisfactory to the City. Before commencing work, the Contractor shall submit the original or certified copies of his policies to the Engineer for review and approval. Any policy found not satisfactory shall be corrected or replaced by a new policy, if necessary, from another company. Insurance policies covering operations under this Contract which expire before final acceptance of the work shall be renewed and the new policies submitted to the City Officer for review and approval. All policies which are subject to cancellation shall be endorsed to provide that such cancellation shall not become effective without twenty days' prior notification to the City Officer for Workmen's Compensation and ten days' prior notification for all other types of insurance. Certificates of insurance shall also be filed with the City Officer.

A. Workmen's Compensation Insurance: All employees of the Contractor and his subcontractors engaged in work at the site shall be covered by Workmen's Compensation Insurance. In accordance with the Michigan State Compensation Law. In case any work is sublet, the Contractor shall require each subcontractor to similarly provide Workmen's Compensation Insurance for his respective employees, unless such employees are covered by the insurance provided by the Contractor.

B. Public Liability and Property Damage Insurance: Public Liability Insurance and Property Damage Insurance shall protect the Contractor against his liability because of injury, sickness, or disease, including death at any time resulting therefrom sustained by any person, not employees, and against his liability because of injury to or destruction of property of others, including the loss or use thereof, respectively, caused by any and all operations under this Contract, including, but not limited to, the use of any and all types of construction equipment and methods used on the work.

In case any work is sublet, the Contractor shall effect and maintain Protective or Contingent Public Liability and Property Damage Insurance, in amount not less than those fixed for Public Liability and Property Damage Insurance, to protect him against his liability arising out of the operations at the site of such subcontractors.

In addition to the above requirements, if any work is sublet, the Contractor shall require each subcontractor not fully protected under the Contractor's Public Liability and Property Damage Insurance Policies, to effect and maintain during the period of his respective operations at the site, Public Liability and Property Damage Insurance. The amounts of such insurance, if not in the amounts as fixed for the Contractor, shall be determined by the Engineer based on the nature and potential hazards of the operations of the respective subcontractors, and shall not necessarily be based on the amount of the subcontract. In no case, however, shall the amount of such coverage

for Public Liability be less than \$100,000 for one person and \$300,000 for each accident or occurrence, nor the amount for Property Damage be less than \$100,000 for each accident and \$300,000 for aggregate operations, and may be fixed up to and including the amounts fixed in the Special Notice to Bidders.

C. Fire Insurance: Fire Insurance with Extended Coverage and Vandalism and Malicious Mischief endorsements shall be at 100 per cent value, and shall include items of labor and materials connected therewith whether in or adjacent to the structure insured; materials in place, or to be used as part of the permanent construction, including surplus materials, shanties, protective fences, bridges, or temporary structures; miscellaneous materials and supplies incident to the work; and such scaffolding, stages, towers, forms, and equipment as are not owned or rented by the Contractor, the cost of which is included in the cost of the work. This insurance shall not cover any tools owned by mechanics, any tools, equipment, scaffolding, stages, towers, and forms owned by the Contractor, the capital value of which is not included in the cost of the work.

The policy shall be secured in the name of the City of Detroit for the benefit of the Contractor and or the City, as the City Officer shall find their respective interests to appear. The original of the policy shall be filed with the City Officer for transmittal to the City Finance Department, which shall retain it until the work has been physically completed and found, by the City Officer, to be acceptable under the terms of the Contract. The policy shall not be cancelled or permitted to expire without the consent of the City Officer in writing.

The loss, if any, when paid, except such portion or portions thereof which may be applied for loss or damage to the Contractor's temporary plant and equipment, shall be retained by the City as security for the performance by the Contractor of his obligations under the Contract, and shall be released to the Contractor in periodical payments as such performance progresses.

D. Other Insurance: Other types of insurance, if any, shall be in the amounts as fixed in the Special Notice to Bidders. All applicable provisions of this Article shall also apply to such additional insurance.

9. MATERIALS AND WORKMANSHIP

Unless otherwise expressly provided in the Contract Drawings or Specifications, the work shall be performed in accordance with the best modern practice with materials and workmanship of the highest quality for the particular purpose. The Engineer shall judge and determine the Contractor's compliance with these requirements.

Where materials, equipment, or articles are specified by a particular brand, or name of a proprietary product, or "approved equal", the Engineer shall decide the question of quality of other materials, equipment, or articles proposed by the Contractor. Materials, equipment, or articles specified by reference to the number of a specific standard, such as an A.S.T.M. Standard, a Federal Specification, or similar standard, shall comply with such standard, except as limited to type, class or grade, or modified in the Specifications, shall have full force and effect as though printed in full therein.

The Contractor shall be free to secure the approved materials, equipment, and articles from sources of his own selection. However, if the Engineer finds that the work will be delayed or adversely affected in any way because a selected source of supply cannot furnish a uniform product in sufficient quantity and at the time required, or the product is not suitable for the work, the Engineer shall have the right to require the original source of supply changed by the Contractor. The Contractor shall have no claim for extra cost or damage because of this requirement.

10. INFORMATION BY THE CONTRACTOR

The Contractor shall submit to the Engineer for approval, information concerning the materials, equipment, and articles which he proposes to furnish and the manner or arrangements for incorporating them in the work. This information shall be complete to the extent necessary that the Engineer may intelligently determine if the proposed materials, equipment, articles, manners, and arrangements are acceptable and will meet the Contract requirements. The information shall be in the form and submitted in the manner prescribed in the General Specifications or as directed by the Engineer.

The information shall be submitted on dates sufficiently in advance of requirements to afford the Engineer ample time to check it, including time for correcting, resubmitting, and recheck, if necessary, and no request for an extension of the Contract time for completion will be granted to the Contractor by reason of his failure in this respect.

Any work done by or for the Contractor prior to the Engineer's required approval of materials, equipment, articles, and their arrangements, based on the information submitted by the Contractor, shall be at the Contractor's own risk and subject to subsequent rejection.

The approval of the Contractor's information covering materials, equipment, articles, manners, and arrangements by the Engineer shall be general and shall not relieve the Contractor from the responsibility for adherence to the Contract, nor shall it relieve him of the responsibility for any errors which may exist.

11. MEANS AND METHODS OF CONSTRUCTION

Unless otherwise expressly provided in the Contract Drawings, Specifications, or Bulletins, the means and methods of construction shall be such as the Contractor may choose; subject, however, to the Engineer's right to prohibit means and methods proposed by the Contractor which in the Engineer's judgment:

- a) Will constitute a hazard to the work, or to persons or property, or will violate express requirements of applicable laws or ordinances; or
- b) Will cause unnecessary or unreasonable inconvenience to the public; or
- c) Will not produce finished work in accordance with the requirements of the Contract Documents; or
- d) Will not assure the work to be completed within the time allowed by the Contract.

The Engineer's approval of the Contractor's means or methods of construction, or the Engineer's failure to exercise his right to prohibit such means or methods, shall not relieve the Contractor of his obligation to accomplish the result intended by the Contract; nor shall the exercise of such right to prohibit create a cause of action for damages.

Where the Contract Drawings, Specifications, or Bulletins require the use of specific means or methods of construction, the Contractor shall submit his proposed plan of procedure to the Engineer sufficiently in advance to permit a reasonable time for determining the adequacy and safety of the proposed plan. Failure to so submit the proposed plan within a reasonable time shall not create a cause of action for damages for the resulting delay in the work or be a cause for extension of time by the City for completion of the work.

12. SUPERINTENDENCE OF CONTRACTOR

The work under this Contract shall be under the direct charge and superintendence of the Contractor. Except where the Contractor is an individual and gives his personal superintendence to the work, the Contractor shall provide a competent superintendent or general foreman on the work at all times during progress with full authority to act for him. The Contractor shall also provide an adequate staff for the coordination and expediting of his work.

The superintendent and staff shall be satisfactory to the City Officer. The superintendent or general foreman shall not be changed during this Contract except with the written consent of the City Officer unless the superintendent or general foreman proves unsatisfactory to the Contractor and ceases to be in his employ.

13. EMPLOYEES

The Contractor shall employ only competent, efficient workmen and shall not use on the work any unfit person or one not skilled in the work assigned to him, and shall at all times maintain good order among his employees.

Whenever the City Officer shall inform the Contractor, in writing, that, in his opinion, any employee is unfit, unskilled, disobedient, or is disrupting the orderly progress of the work, such employee shall be removed from the work and shall not again be employed on it.

Neither party shall employ or hire any employee of the other party without the latter's consent.

14. WORKING AREA

The Contractor shall confine his equipment, storage of materials, and construction operations to the area shown on the Contract Drawings or stated in the Specifications, prescribed by ordinance, laws, or permits, or as may be directed by the City Officer, and shall not unreasonably encumber the site or public right-of way with his construction equipment, plant or materials.

Such area shall not be deemed for the exclusive use of the Contractor. Other contractors of the City may enter upon and use such portions of the area and for such times as determined by the Engineer are necessary for all purposes required by their contracts. The Contractor shall give to such other contractors all reasonable facilities and assistance to the end that the work on this and the other contracts will not be unduly or unreasonably delayed. Any additional grounds desired by the Contractor for his use shall be provided by him at his own cost and expense.

15. OTHER CONTRACTORS

The City of Detroit may award other contracts for additional work on this project, or contiguous thereto, and the Contractor shall fully cooperate with such other contractors and shall coordinate and fit his work to be done hereunder to such additional work as may be directed by the Engineer. The Contractor shall not commit or permit any act which will interfere with the performance of work by any other contractor.

If the City Officer shall determine that the Contractor is failing to coordinate or fit his work with the work of other contractors or City forces as directed by him or his authorized representative:

- a) The City shall have the right to withhold payments due hereunder until such time as the Contractor complies; and
- b) The Contractor shall indemnify and hold the City harmless from any and all claims of judgment from damages and from costs and expenses which the City may suffer, incur, or be subjected to by the Contractor's failure to carry out the Engineer's directions; and
- c) The City shall have the right to retain such monies as provided for in Article 33 herein as the City may decide necessary to protect itself with respect to claims which may be made for damages caused by the failure to carry out the City Officer's directions.

Upon receiving written notice from the Contractor that another contractor is failing to coordinate his work with the work under this Contract as directed by the City Officer, the City Officer will promptly investigate the charge and take such necessary action as the situation may require. However, the City shall not be liable to the Contractor for damages suffered by this Contractor through failure of another contractor to carry out the directions of the City Officer, or by reasons of another contractor's default in performance, as the City makes no warranty as to the responsibility or continued ability of another contractor.

If the Contractor suffers damage by reason of any act or omission of such other contractor, the Contractor shall have no claim against the City, but shall have the right to recover such damages from the other contractor under the provision similar to the following provision which has or will be inserted in the contracts with such other contractors who are or who will be performing work upon the site of the work to be performed hereunder.

Should any other contractor having, or who shall hereafter have, a contract with the City of Detroit for the performance of work upon the site of the work to be performed hereunder, suffer any damage through the act or omission of the Contractor hereunder, or through any act or omission of any subcontractor of the Contractor, the Contractor agrees to reimburse such other contractor for all such damages and hold the City harmless from all such claims.

16. CITY'S RIGHTS TO SUSPEND WORK

The City shall have the right by written order to require the Contractor to suspend the whole or part of the work whenever, in the judgment of the City Officer, such suspension is required:

- a) In the interest of the City generally;
- b) Due to Government controls or orders which make performance of this Contract temporarily impossible or illegal;
- c) To coordinate the work of the various contractors engaged on this project;

d) To expedite the completion of the entire project even though the completion of this particular Contract may be thereby delayed.

The written order of the City Officer to the Contractor shall state the reason for suspending the work and the anticipated periods for such suspension. Upon receipt of the City Officer's written order, the Contractor shall suspend the work covered by the order and shall take such means and precautions as may be necessary to properly protect the finished and partially finished work, the unused materials, and uninstalled equipment. Work shall not again be resumed on that part of the work ordered suspended until ordered by the City Officer in writing to do so.

No additional compensation shall be paid to the Contractor for such suspensions other than:

a) Extending the time for the completion of the work, as much as it may have been delayed by such suspension, as determined by the City Officer;

b) The actual and necessary costs of properly protecting the finished and partially finished work, unused materials, and uninstalled equipment during the period of the ordered suspension as determined by the City Officer as being beyond the Contract requirements. Such costs, if any, shall be determined on the basis set forth in Article 20 herein.

If the City Officer does not give the Contractor a written order to resume work within 60 days from the date fixed in the written order to suspend work, then the Contractor shall be entitled to receive any money retained by the City on all work done on the portions ordered delayed. Such money so released will be included in the next succeeding progress payment.

If the City Officer does not issue the written order to resume work within 90 calendar days from the date fixed in the written order to suspend work, then the Contractor may at any time thereafter notify the City Officer, in writing, of his intention to terminate the Contract within a stipulated time from the date of such notification, which time shall not be less than 30 days, unless the written order to resume work is issued by the City Officer within such stipulated time. If, at the expiration of the time stipulated in the Contractor's written notification, the written order to resume work has not been issued by the City Officer, the Contract will be considered terminated. Final settlement with the Contractor for the work performed will be made in accordance with the provisions of Article 27 herein.

17. USE OF COMPLETED PORTIONS OF WORK

The City may, after written notice by the City Officer to the Contractor, take over and use any completed portion of work prior to the final completion of the entire work included in the Contract, and notwithstanding that the time allowed for final completion has not expired. The Contractor shall not object to, nor interfere in any way with, such occupancy or use after receipt of the City Officer's written notice.

Immediately prior to such occupancy and use, the Engineer will inspect such portion of the work to be taken over and will furnish the Contractor a written statement of the work, if any, still to be done on such part. The Contractor shall promptly thereafter complete such unfinished work to permit occupancy and use on the date specified in the City Officer's written order, unless the Engineer shall permit specific items of work to be finished after the occupancy and use by the City.

The Contractor shall not be responsible for any damage or maintenance costs due directly to the occupancy and use of such part by the City. The period of guarantee, if any, for such portion of the work shall begin on the date of occupancy and use by the City. If the occupancy and use of such portion directly causes a delay in completion of the balance of the work beyond the time allowed for final completion of the entire work, then the Contractor will be allowed an extension of time commensurate with such delay as determined by the City Officer in accordance with the provisions of Article 18 herein.

When the Contract requires that the Contractor provides fire insurance in accordance with Article 8 herein, such insurance shall not be cancelled or reduced in amount by reason of the occupancy and use by the City of any completed portion of the work. The insurance in the full amount as required by the Contract shall be kept in force and at the Contractor's expense until final acceptance of the entire Contract.

18. DELAYS AND EXTENSION OF TIME

An extension of time for completion of the work under the Contract may be granted by the City Officer, subject to conditions of this Article, but only upon the written application of the Contractor.

In general, an extension of time will be granted by the City Officer only if the delay is unavoidable and substantial, not the fault of the Contractor, and could not be reasonably anticipated or adequately guarded against. The Contractor will not be liable for liquidated damages during the period for which time of completion is extended by the City.

A. Grounds for Extension: The Contractor shall be entitled to a reasonable extension of time for unavoidable delay in completion caused solely by:

- a) Any acts or omissions of the City, its officers, or employees.
- b) Any acts of other public authority;
- c) Causes not reasonably foreseeable by the parties at the time of the execution of this Contract and which are entirely beyond the control and without the fault or negligence of the Contractor, including, but not limited to, acts of God, or the public enemy, war or other national emergency making performance temporarily impossible or illegal, acts or omission of other contractors, strikes and labor disputes not brought on by any act or omission of the Contractor, fire, floods, epidemics, quarantine restrictions, freight embargoes, weather of unusual severity such as cyclones or tornadoes, or excessive abnormal weather.

B. Concurrent Causes of Delay: The Contractor shall not be entitled to receive a separate extension of time for each of several causes of delay operating concurrently, but, if at all, only for the actual period of delay in completion of the work as determined by the City Officer, irrespective of the number of the causes contributing to produce the delay. If one of the several causes of delay operating concurrently results from any act, fault, or omission of the Contractor or his subcontractors or materialmen, and would of itself, irrespective of the current causes, have delayed the work, no extension of time will be allowed for the period resulting from such act, fault, or omission.

C. Delays of Subcontractors or Materialmen: Delays caused by the Contractor's subcontractors or materialmen will, in themselves, not be causes for an extension of time by the City Officer. Such delays to warrant an extension of time must be occasioned by the same causes specified in "A" above, "Grounds for Extension".

D. Delays by Other Contractor: If several contracts are entered into by the City for performance of work on the site of this contract and the specified time of completion of the work under the several contracts is predicated on the work being carried on concurrently, the Contractor will not be entitled to any extensions of time because of necessary interruptions to or suspensions of his work, required to enable the other contractors to perform their work on the site, as such necessary interruptions to or suspension of his work where taken into consideration in fixing the Contract time for completion.

E. Contractor's Application: The Contractor shall submit his written application to the City Officer within five days from the beginning of the claimed delay, unless the City Officer should grant additional time if, in his judgment, circumstances so justify, but in any event prior to the Contract date for final completion. Should the delay claimed be for acts or omissions of the City which the City might have rectified or mitigated had the Contractor more promptly submitted his application, the Contractor shall not be entitled to an extension of time for such period of delay as determined by the City Officer resulted from failure of the Contractor to more promptly submit his application. The Contractor's application shall set forth in detail the nature of each alleged cause of delay, the date upon which each such cause of delay began and, if not still continuing, when ended, with the number of days delay attributable to each of such causes. The application shall also give the reason why, in the Contractor's opinion, the delay was unavoidable and beyond his control.

The City Officer will review the Contractor's application and shall ascertain the facts, and the cause and extent of delay. The City Officer shall have the authority to request the Contractor to furnish additional information to substantiate any statements or claims made in the application. Failure of the Contractor to promptly and fully furnish the additional information requested shall be deemed a waiver on the part of the Contractor for an extension of time requested. The City Officer shall be under no obligation, however, to request additional information and may confine his review and base his decision solely on the statements made in the Contractor's original written application.

F. City Officer's Determination: The City Officer will make a determination based, based on the ascertained facts and the terms of this Contract, if an extension of time is justified, and, if so, will extend the time for completing the work for a period commensurate with the period of excusable delay. The determination made by the City Officer shall be binding and conclusive on the Contractor.

If the City Officer determines that the causes of delay justify an extension of time but the period of such extension can not be simultaneously determined due to the delay still continuing, the City Officer, will extend the time of completion for the delay attributable to such causes, with the proviso that the commensurate period of the extension of time will be later determined when the period of excusable delay can be definitely established. Such extension of time, without the actual period being initially determined, shall in no wise tend to modify or abrogate the Contract provision that time is of the essence, nor permit the claim for additional time because of avoidable consequential delays.

G. Permitting Continuation of Work: Permitting the Contractor to continue with the work after the time fixed in the Contract has expired, or after the time to which such completion may have been extended has expired, or the making of any payments to the Contractor after such time, shall in no wise operate as a waiver on the part of the City of any of its rights under this Contract and shall not in any way release the sureties hereunder.

H. No Damages for Delay: The Contractor agrees to make no claim for damages for delay in the performance of this Contract occasioned by any act or omission of the City and agrees that any such claim shall be fully compensated for by an extension of time to complete performance of the work, as provided for herein.

19. CHANGE OR MODIFICATION OF CONTRACT

The City Officer may, from time to time, by written order to the Contractor, change or modify this Contract, provided the general character of the work as a whole is not materially affected thereby. Such changes or modifications shall not invalidate the Contract or the surety bonds, nor relieve or release the Contractor or Surety from any of their respective obligations or liabilities under the Contract or bonds. Drawings in themselves shall not be considered as a written order.

The written order shall be valid only when signed by the City Officer and, in addition, if the change or modification results in an increase of \$1,000 or more in the Contract price, the approval of the Common Council has been obtained. The written order shall designate the amount of the adjustment, if any, in the Contract price and stipulate any extension in time for completion of the Contract.

When, in the judgment of the Engineer, circumstances necessitate, but time does not permit the prior determination of the adjustment in the Contract price or in the time of completion, if any, the Engineer shall have authority to issue, on behalf of the City Officer, the required written order, designated as an "emergency order". Such emergency order shall be later confirmed in writing by the City Officer when the adjustment in the Contract price or time of completion, if any, has been determined.

The Engineer shall also have authority to issue a written order on behalf of the City Officer for changes or modifications not involving adjustments in the Contract price or in the time of completion.

20. METHODS FOR DETERMINING ADJUSTMENTS IN CONTRACT PRICE

Adjustments, if any, in the Contract price, either additive or subtractive, by reason of a change or modification in the Contract ordered in writing by the City Officer, shall be limited to the amount stated in the written order. Adjustment in price shall be determined by one or more of the following methods, the City Officer having the right to select the method or methods used:

A. Lump Sum Amount: By this method, the amount of the adjustment will be the amount of an acceptable lump sum proposal from the Contractor. To facilitate checking and acceptance, the City Officer shall have the right to require the Contractor's lump sum proposal to be itemized with quantities and prices for the various items.

B. Unit Price: By this method, the amount of the adjustment will be computed by applying acceptable unit prices to the various items. The unit prices may be those for which there are applicable unit prices in the original Proposal, the approved Detailed Estimate, or may be those fixed by subsequent agreement between the City and Contractor.

C. Cost-Plus-Limited Amount: By this method, the amount of adjustment will be determined by (a) the actual, necessary, and reasonable costs directly incurred by the Contractor or subcontractor, plus (b) a fixed percent, and (c) with the total amount limited to the maximum amount stated in the City Officer's written order.

The total amount of the adjustment will be determined as follows:

"Annual cost" will consist of:

- 1) Labor: Being the amount shown on the Contractor's payroll for direct labor used, with payroll taxes or contributions for Unemployment Insurance Compensation and Federal Social Security, etc., added, when same have been incurred. In no case, however, shall the wage rates charged for labor exceed the wage rates paid for the same class of labor employed on the original Contract work; plus
- 2) Materials: Being the net cost of materials, including the cost of transportation to the site, as shown by invoices; plus
- 3) Equipment: Being the actual cost of equipment rental, or rental value if contractor-owned, but not to exceed the prevailing rentals charged in the Detroit district for equipment of like size and condition, plus the actual incurred costs for necessary supplies and repairs for operating the equipment; plus
- 4) Insurance: Being the net additional cost of insurance premiums which are incurred and which are determined from the labor payrolls, limited, however to such types of insurance required by the Contract.

To the total sum of Items 1 through 4 shall be added the following percent:

- 5) For Work Done by Contractor's Forces: Fifteen percent as compensation for all other items of expense, including superintendence, use of ordinary tools, general overhead, bonds, and profit.
- 6) For Work Done by Subcontractor's Forces: Ten percent of the subcontractor's "actual costs", computed in accordance with Items 1 through 4, as full compensation for all other items of expense and profit of the subcontractor, plus an additional five percent of the subcontractor's "actual costs" as full compensation for all the other items of expense and profit of the Contractor.
- 7) When Both Extra and Omitted Work: When the City Officer's written order involves both extra work and omitted Contract work in a lump sum contract, or a part of a lump sum item in a unit price contract, the difference between the actual cost of the extra work, obtained pursuant to Items 1 through 4, and the estimated net cost, exclusive of overhead and profit, the omitted Contract work shall be determined. The estimated net cost of the omitted Contract work shall be taken at 87 percent of the total cost shown in the Detailed Estimate or lump sum amount for the item in the Proposal, or, if such is not applicable, by estimate according to Items 1 through 4.

The total adjustment in the Contract price shall then be determined as follows:

- a) Net Increase: If the actual cost of the extra work exceeds the estimated net cost of the omitted Contract work, the Contract price shall be increased by the net difference, plus the applicable percent in Items 5 or 6.
- b) Net Decrease: If the estimated net cost of the omitted work exceeds the actual cost of the extra work, the Contract price shall be reduced by the net difference, plus five percent of the estimated net cost of the omitted work. When the City's written order involves both extra work

and omitted work covered by Contract unit prices, the cost of the extra work shall be determined in accordance with Items 1 through 6 and the cost of the omitted work shall be obtained by Contract unit prices. The adjustment in the Contract price shall be the difference, either additive or subtractive, between the cost of the extra work and the omitted work.

8) **Maximum Limit of Cost:** The total amount of the adjustment in the Contract price shall be limited to the maximum amount stated in the City Officer's written order to the Contractor to perform the work. The final amounts that are to be allowed will be as computed pursuant to Items 1 through 7 or the stated maximum amount, whichever is the lesser amount.

9) **Records of Costs:** The Contractor and his subcontractors shall keep accurate, complete, daily records of the net actual cost incurred for the extra work performed, and shall present such information in the form and times as directed by the Engineer, as provided for in Article 22 herein.

21. DISPUTED WORK, DETERMINATION, OR ORDER

If the Contractor is of the opinion that (a) the work necessary or required to accomplish the result intended by this Contract, or (b) any work ordered to be done as Contract work by the Engineer or City Officer, is extra work, or (c) any determination or order of the Engineer or City Officer violates the terms and provisions of this Contract, the Contractor shall promptly, either before proceeding with such work or complying with such order or determination, or simultaneously therewith, notify the City Officer in writing of his contentions with respect thereto and request a final determination thereof.

Such determination of the City Officer shall be given in writing to the Contractor. If the City Officer determines that the work in question is extra work and not of required performance by the Contractor beyond that required by the Contract or violates the terms and provisions of the Contract, thereupon the City Officer shall cause either (a) the issuance of a written order by the City covering the extra work as provided for in Article 19 hereof, or (b) the determination or order complained of to be rescinded or so modified so as to not require performance beyond that required by or so as not to be in violation of the terms and provisions of the Contract.

If the City Officer determines that the work in question is Contract work and not extra work, or that the determination or order complained of does not require performance by the Contractor beyond that required by the Contract or violates the terms and provisions of the Contract, he will direct the Contractor to proceed and the Contractor must promptly comply. However, in order to reserve his right to claim compensation for such work or damages resulting from such compliance, the Contractor must, within five days after receiving the City Officer's determination and direction, notify the City Officer in writing that the work is being performed, or that the determination and direction is being complied with, under protest.

If the Contractor fails to so appeal to the City Officer for a determination or, having so appealed, should the Contractor thus fail to notify the City Officer in writing of his protest, the Contractor shall be deemed so have waived any claim for extra compensation or damages therefor. No oral appeals or oral protests, no matter to whom made, shall be deemed even substantial compliance with the provisions of this Article.

If the Contractor shall claim to be sustaining damages by reason of any acts or omissions of the City, its officers, or employees, he shall within five days after such acts or omissions occur, notify the City Officer in writing, except that if the claim is of a continuing character and the notice of claim is not given within the five days of its commencement, the claim will be considered only for a period commencing five days prior to the receipt by the City Officer of the notice thereof.

Within 30 days after the date of notification, or within such additional time as may be granted in writing by the City Officer upon the Contractor's written request therefor, the Contractor shall submit to the City Officer verified detailed statements of the damages sustained together with documentary evidence of such damages. On failure of the Contractor to fully comply with the foregoing provisions, such claims shall be deemed waived and no right to recover on such claims shall exist.

In addition to the foregoing statements, the Contractor shall, upon notice from the City Officer, produce for examination at the Contractor's office, by the representatives of the City, all his books of record, showing all of his acts and transactions in connection with or relating to or arising by reason of this Contract. At such examination a duly authorized representative of the Contractor may be present.

Unless the aforesaid statements shall be made and filed within the time aforesaid and the aforesaid records submitted for examination, the City shall be released from all claims arising under, relating to, or by reason of this Contract, except for the sums certified by the City Officer to be due under the provisions of this Contract. It is further stipulated and agreed that no person has power to waive any of the foregoing provisions, and that in any action against the City to recover any sum in excess of the sums certified by the City Officer to be due under or by reason of this Contract, the Contractor must allege in his complaint and prove, at the trial, compliance with the provisions of this section.

In connection with the examination provided for herein, the City Officer, upon demand therefor, will also produce for inspection by the Contractor such records as the City may have with respect to such disputed work or work performed under protest pursuant to order of the City Officer, except those records and reports which may have been prepared for the purpose of determining the accuracy and validity of the Contractor's claim.

22. PERFORMANCE OF EXTRA OR DISPUTED WORK

While the Contractor or his subcontractor is performing extra work in accordance with the City Officer's written order, the cost of which is to be determined by method "C" of Article 20 hereof, or is performing disputed work or complying with a determination or order under protest in accordance with Article 21 hereof, in each case the Contractor shall daily furnish the City Officer's representative at the site with three copies of verified statements showing:

a) The name and number of each workman employed on such work or engaged in complying with such determination or order, the character of work each is doing and the wages paid to him, including the rate and amount of payroll taxes and contributions for Unemployment Insurance and Federal Social Security; and

b) The nature and quantity of any materials, plant, or construction equipment furnished or used in connection with the performance of such work or in complying with such determination or order, and from whom purchased or rented.

A copy of such statements will be signed by the City Officer's representative, noting thereon any items in question, and will be returned to the Contractor within two working days after submission. This signature shall not be construed as the City's agreement and acceptance of items not questioned since all items are subject to subsequent review and audit by City representatives.

The Contractor, and his subcontractors, when required by the City Officer or the Engineer, must also produce for inspection and audit by designated City representatives, any and all of his books, vouchers, records, daily job diaries and reports, cancelled checks, etc., showing the nature and

quantity of labor, materials, and equipment actually used in the performance of the work, and the amounts expended therefor, and the costs incurred for insurance premiums and other items of expense directly chargeable to such work. The Contractor must permit the City's representatives to make extracts therefrom or copies thereof as may be desired.

Failure of the Contractor to comply strictly with these requirements shall constitute a waiver of all or part of any claim for extra compensation on account of the performance of such work.

23. THE ENGINEER

The work under this Contract shall be under the general supervision and control of the Engineer and shall be subject to his determination, direction, and approval, except where the determination, direction, or approval of someone other than the Engineer is expressly called for herein.

Without implying any limitation upon the power of the City Officer, and in addition to those matters elsewhere delegated to the City Officer and expressly made subject to his determination, direction, or approval, the Engineer shall have the authority and power:

- a) To determine the amount, kind, quality and acceptability of the work to be paid for hereunder, and to reject such work which does not conform to the Contract requirements;
- b) To determine all questions in relation to the work, to interpret the Contract Drawings, Specifications, and Bulletins, and to resolve all patent inconsistencies or ambiguities therein;
- c) To amplify the Contract Drawings and Specifications, add explanatory information and furnish Supplemental Drawings and Specifications consistent with the intent of these Contract Documents;
- d) To make changes in the work as he deems necessary provided that such changes do not result in a net change in the cost to the City or the Contractor of work to be done under the Contract or increase the time required for completion;
- e) To determine the adequacy of the Contractor's construction methods, plant, and facilities;
- f) To require the application of the Contractor's forces to any portion of the work, or the forces increased or diminished, or the work temporarily stopped when, in his judgment, such may be necessary to assure proper performance of the Contract;
- g) To determine how the work of this Contract shall be coordinated with the work of other contractors engaged simultaneously on the project of which this Contract is a part, including the power to temporarily stop the work.

The Engineer or any of his representatives have no power to change or modify any of the terms and provisions of this Contract in any respect.

A. Engineer's Representatives: Where the Contract Documents provide that the determinations, directions, or approvals shall be made by the "Engineer", this shall mean by the Engineer acting directly or through duly authorized representatives acting within the limit of authority delegated to them. Any determination, direction, or approval of such authorized representative shall be subject to review by the City Officer.

B. Field Engineer: The Field Engineer shall be the authorized representative of the City Officer at the site of the work, and, subject to the review by the City Officer, shall have the power, in the first instance, to inspect, supervise, and control the performance of the work. The Field Engineer shall not have the power to issue an extra work order, other than an "emergency order" in accordance with Article 19 herein, and performance of such work by the Contractor on order of the Field Engineer without thereafter obtaining written confirmation thereof from the City Officer in accordance with the provisions of Article 19 hereof, shall constitute a waiver of any right to extra compensation therefor. The Field Engineer has no power to change or modify the terms and provisions of this Contract in any respect.

C. City Officer's Final Determinations: The City Officer's determinations shall be final relative to the proper performance of the work and the materials used, and the Contractor is bound thereby.

It is hereby covenanted and agreed between the two parties of this Contract that the City Officer shall review and determine all disputes, controversies, or claims of either party in relation to this Contract or its performance. Such determination shall be made in writing by the City Officer within a reasonable time and shall be final and conclusive upon both the Contractor and the City. It is further covenanted and agreed between the two parties to this Contract that the determination by the City Officer shall be a condition precedent to the right of any legal action at law or in equity that either party may have against the other.

24. INSPECTION AND TESTS

During the progress of the work and up to the date of final acceptance, all materials, equipment and workmanship shall be subject to such inspections and tests by the Engineer, inspectors, or his agents as will give due assurance that all Contract requirements are being fulfilled in all respects. However, neither inspection, testing, approval nor acceptance of the work in whole or in part, by the Engineer, inspectors, or his agents shall relieve the Contractor of full responsibility for materials or equipment furnished, or work performed not in strict accordance with the Contract requirements.

The Contractor shall at all times afford the City's representatives every reasonable, safe, and proper facility, furnish promptly all materials reasonably necessary for testing, and give all necessary information and assistance for inspection and tests of the work done or being done at the site, and also at the places where materials and equipment for the work are being manufactured or prepared. Such inspections and tests by the City's representatives will be performed in such manner as not to delay the work unnecessarily.

A. Required Inspections: Where the Contract Specifications, laws, ordinances, permits, licenses, or the Engineer's instructions require certain work to be specifically inspected, tested, or approved, the Contractor shall give the Engineer timely notice of its readiness for such inspection, test, or approval. If the inspection, test or approval is by others than the Engineer or his inspectors, the Contractor shall give the Engineer sufficient advance notice so that the Engineer, in turn, may make the arrangements with others for the required inspection, tests, or approval. The inspections and tests will be promptly made after a reasonable advance notice.

B. Inspection and Tests Away from Site: Where the Contract Specifications expressly provide for inspection, test, or acceptance of specific materials or equipment, or where the quantities justify, at the place of production, manufacture, or shipment, the Contractor shall give the Engineer ample advance notice to permit such inspection, test, or acceptance. The Contractor shall furnish the Engineer with copies of the purchase orders, shop orders, and such other information as

necessary to acquaint the Engineer with the location and intended use of the material or equipment. The Contractor shall make all necessary arrangements with the producers or manufacturers to enable the City's representatives to make the required test, inspection, or acceptance.

Inspections, tests, or acceptance at the place of production, manufacture, or shipment, unless otherwise stated in the Contract Specifications, shall be final, except as regards (a) latent defects, (b) departure from specific Contract requirements, (c) damage or loss in transit, or (d) fraud or such gross mistakes as amount to fraud. Subject to the requirement contained in the preceding sentence, the inspection and test of materials, equipment, and workmanship for final acceptance as a whole or in part will be made at the site.

C. Rejection of Defective Materials and Workmanship: The Engineer, inspectors, or his agents shall have the authority to reject defective materials, equipment, or workmanship or require correction. Unacceptable workmanship shall be satisfactorily corrected. Rejected materials or equipment shall be segregated and promptly removed from the site and replaced with proper materials or equipment.

If the Contractor fails to promptly proceed with the replacement of rejected material or equipment and/or the correction of defective workmanship, the City may, by contract or otherwise, replace such material or equipment and/or correct such workmanship and charge the cost thereof against the Contractor, or may terminate the Contractor's right to proceed as provided in Article 26 herein, the Contractor and Surety being liable for any damage to the same extent as provided in said Article 26 for termination thereunder.

D. Examination of Completed Work: If at any time before final acceptance of the entire work, the Engineer should require an examination of work already completed, by removing or tearing it out, the Contractor shall furnish all necessary facilities, labor and materials. If the Engineer finds the work to be defective or nonconforming in any material respect, due to the fault of the Contractor or his subcontractors, the Contractor shall stand all the expense of such examination, the satisfactory reconstruction of the work, and for any resulting delay. However, if the work is found by the Engineer to meet the Contract requirements, the additional work imposed on the Contractor shall be considered an item of extra work to be paid for in accordance with Article 20, hereof, and if the completion of the work of the entire Contract has been delayed thereby, the Contractor shall be granted a suitable extension of time on account of the extra work involved.

However, if the Contractor is required to remove or tear out completed work for examination due to the Contractor's failure to give timely notice to the Engineer of the readiness for such examination, the Contractor shall stand all expenses even though the work is found to meet the Contract requirements.

E. Cost of Tests: The inspections and tests made by the Engineer, inspectors, or his agents will ordinarily be made without cost to the Contractor unless otherwise expressly specified herein. The Contractor shall furnish without additional cost to the City such materials for testing as may be reasonably necessary.

Should, however, the preparation or manufacture of the materials or equipment be at fair distant or inaccessible points, or should it be separated into unreasonably small quantities, or widely distributed to an unreasonable extent, or should the percentage of rejected material or equipment be unreasonably large, the additional cost of such inspection and tests resulting therefrom shall be borne by the Contractor. The City Officer shall judge what is extra inspection and shall determine the additional cost incurred thereby.

25. NO ESTOPPEL

The City of Detroit, or any officer, employee, or agent thereof, shall not be estopped, bound, or precluded by any determination, return, decision, approval, order, letter, payment or certificate made or given by the Engineer or other officer, employee or agent of the City, at any time, either before or after final completion and acceptance of the work and payment therefor from:

- a) Showing the true and correct amount, classification, quality, and character of the work done and materials furnished by the Contractor or any other person under this Contract, or from showing at any time that any determination, return, decision, approval, order, letter, payment, or certificate is untrue and incorrect, or improperly made in any particular, or that the work or the materials or any parts thereof, do not in fact conform to the Contracts requirements; and
- b) From demanding the recovery from the Contractor of any overpayments made to him, or such damages as the City of Detroit may sustain by reason of his failure to perform each and every part of this Contract in strict accordance with its terms; or both.

26. CITY'S RIGHT TO DECLARE CONTRACTOR IN DEFAULT

A. Conditions for Declaring Contractor in Default: In addition to those instances referred to in other Articles herein, the City shall have the right to declare the Contractor in default of the whole or any part of the work if:

- a) The Contractor fails to begin work in accordance with the written notice of the City Officer, acting on behalf of the City.
- b) The Contractor refuses, neglects, or fails to supply a sufficiency of properly skilled workmen or proper amount of materials of the specified quality.
- c) The Contractor, without just cause, reduces his working force to a number which, if maintained, would be insufficient, in the judgment of the City Officer, to complete the work in accordance with the approved Progress Schedule, and fails to sufficiently increase such working force when ordered to do so by the City Officer.
- d) The Contractor, in the judgment of the City Officer, is unnecessarily or unreasonably or willfully delaying the performance and completion of the work, or the awarding of necessary subcontracts, or the placing of materials or equipment orders.
- e) The Contractor refuses to proceed with work when and as directed by the City Officer.
- f) The Contractor abandons the work.
- g) The City Officer be of the opinion that the work cannot be completed within the time herein provided or within such time as the completion may have been extended; provided, however, that the impossibility of timely completion is, in the City Officer's judgment, attributable to conditions within the Contractor's control.
- h) The work is not completed within the time herein provided or within the time to which the Contractor may be entitled to have such completion extended.
- i) The Contractor shall sublet, assign, transfer, convey, or otherwise dispose of this Contract in whole or in part without the prior approval of the City.

- j) The Contractor fails to make prompt payments for labor or materials or to subcontractors.
- k) The Contractor makes an assignment for the benefit of creditors pursuant to the statutes of the State of Michigan.
- l) A voluntary or involuntary petition in bankruptcy is filed by or against the Contractor.
- m) A receiver or receivers are appointed to take charge of the Contractor's property or affairs.
- n) The Contractor becomes insolvent.
- o) Any City Officer or employee becomes directly or indirectly interested in the Contract.
- p) The Contractor willfully or in bad faith violates any of the provisions of this Contract, disregards applicable laws, ordinances, permits, licenses, instructions or orders of the Engineer or the City Officer, or is not executing same in good faith in accordance with the Contract provisions.
- q) The Contractor, or any of his subcontractors, fail in any of the agreements herein contained.

B. Notice of Intent to Declare Contractor in Default: Before the City shall exercise its right to declare the Contractor in default by reasons of conditions set forth in Sub-Article "A" hereof, the City Officer will give the Contractor and the Surety written notice of the City's intent and the ground or grounds thereof, and designate a time, which may be within two days, at which the Contractor will be given the opportunity to be heard.

C. Exercise of Rights to Declare Contractor in Default: If the City Officer finds the Contractor in default for any of the grounds specified or referred to in Sub-Article "A" hereof, he will declare the Contract in default by a written notice to the Contractor and Surety, signed by the City Officer, setting forth the ground or grounds for such default.

In lieu of the above, the City Officer may decide, but is under no obligation to do so, to allow the Contractor a specific number of calendar days, but usually not more than ten, to take such remedial measures to make arrangements satisfactory to the City Officer to remove or eliminate the ground or grounds for declaring default.

D. Quitting the Site: Upon receipt of such notice the Contractor shall immediately discontinue all further operations upon this Contract and shall immediately quit the site, leaving untouched and intact all plant, materials, equipment, tools, supplies, and other construction facilities then on the site.

E. Completion of the Work after Default: The City, after declaring the Contract in default, may then have the work completed by such means and in such manner, by contract with or without public letting, or otherwise, as the City may deem advisable, utilizing for such purpose such of the Contractor's plant, materials, equipment, tools, supplies, and other construction facilities remaining on the site, and also such subcontractors and materialmen as may be deemed advisable.

F. Partial Default: If the City Officer finds the Contractor in default on only a part of the work, the City Officer shall so declare the Contractor in default as to that part only, by sending a written notice to the Contractor and the Surety. Upon receipt of such notice the Contractor shall discontinue such part which is declared in default, and shall continue to perform the remainder of the work in strict conformity with the terms of the Contract, and shall in no wise hinder or interfere with any other contractors or persons whom the City may engage to complete the work as to which the Contractor was declared in default.

The provisions of this article herein relating to declaring the Contractor in default as to the entire work shall be equally applicable to a declaration of partial default, except that the City shall be entitled to utilize for completion of the part of the work as to which the Contractor was declared in default, only such plant, materials, equipment, tools, supplies, and other construction facilities as had been previously used or were intended to be used by the Contractor on such part.

G. Variance of Contract in Performance of Uncompleted Work: In completing the whole or any part of the work which the City Officer has declared in default, the City shall have the right to depart from or change or vary the terms and provisions of this Contract, provided, however, that such departure, change, or variation is made for the purpose of reducing the time or expense of such completion. Such departure, change, or variation, even to the extent of accepting a lesser or different performance, shall not affect the conclusiveness of the Engineer's final estimate of the cost of completion referred to in Article 8 of the Agreement, nor shall it constitute a defense for action to recover the amount by which such certificate exceeds the amount which would have been payable to the Contractor hereunder but for his default.

H. Contractor's Liability for Cost of Completing Work: The Contractor shall not be entitled to receive any further payments on the work declared in default until such work has been fully completed. After such completion, the City Officer shall make a certified statement of the expense incurred by the City in such completion, which shall include the cost of reletting the Contract, additional engineering and administrative services, and also the total amount of liquidated damages, if any, at the rate stipulated herein, from the date when the work should have been completed by the Contractor in accordance with the terms hereof to the date of actual completion of the work.

In event the amount of work required for completion has been reduced in accordance with the provisions of Sub-Article "G", herein, the estimated cost of the original work shall be estimated by the City Officer and the Contract price adjusted accordingly.

Such certificate shall be finding and conclusive upon the Contractor, his surety, and any person claiming under the Contract, as to the amount thereof. The expense of such completion, as certified to by the City Officer, shall be charged against and deducted out of such monies as would have been payable to the Contractor if he had completed the work. The balance of such monies, if any, subject to other provisions of this Contract, will be paid to the Contractor without interest after such completion. Should the expense of such completion, so certified by the City Officer, exceed the total sum which would have been payable under this Contract if the Contract had been completed by the Contractor, any such excess shall be paid by the Contractor to the City upon demand.

I. Other Remedies: The previous provisions outlined herein shall be in addition to any and all other legal or equitable remedies, permissible in the premises.

27. TERMINATION OF CONTRACT DUE TO SPECIAL EMERGENCY

In entering into this Contract, it is clearly understood and recognized by both parties that conditions may subsequently arise, due to Government controls on construction or Court orders which are entirely beyond the control of either party and could not have been reasonably anticipated or guarded against by either party at the time of entering into this Contract, that may hinder, delay, or render temporarily impossible the performance of this Contract in accordance with its terms and conditions.

It is, therefore, mutually understood and agreed, anything elsewhere contained in the Contract notwithstanding, that if the Contractor shall be specifically prevented by any Federal law, order, or regulation, or stopped by order or injunction issued by a Court of proper jurisdiction, from proceeding with the performance of this Contract, the following procedure shall govern:

The Contractor shall notify, in writing, the City Officer of his inability to continue to perform, stating in full the cause therefor and the probable duration of such inability, and why, in his opinion, the cause is entirely beyond his control.

If it is determined, in the judgment of the City Officer, that the cause of the Contractor's inability to continue to perform arose after the Contract was entered into, and is due solely because of Government controls on construction which specifically apply to the work to be done under this Contract, or by a Court order or injunction, and is entirely beyond the control of the Contractor, the City shall have a period of 120 days, or longer by mutual consent of the parties, after receipt of the Contractor's notification to:

- a) If lawfully within its power, remove or have removed the cause which prevents performance.
- b) Make changes in the work or the conditions under which it must be done, pursuant to Article 10 herein, which will permit performance by the Contractor.

If and when the cause preventing performance has been removed, the time for completion shall be extended by the City Officer, in accordance with the provisions of Article 18 herein, commensurate with the time the Contractor was unable to perform the Contract.

If at the end of 120 days, or the longer period mutually agreed to, the cause of inability to perform the Contract has not been removed, the Contract shall be considered terminated by written notice of either of the parties hereto to the other. The Contract may also be terminated prior to the 120 days by mutual consent of the parties.

If the Contractor should be terminated, it is the City's intent that an equitable settlement be made with the Contractor. No claim, however, for damages or anticipated profits shall be made or allowed. All completed or partially completed work will be paid for at Contract unit prices, or at unit prices contained in the approved Detailed Estimate when, in the judgment of the City Officer, such unit prices are deemed applicable. For any necessary work required by the Contract deemed by the City Officer as not compensated for by applicable unit prices, the Contractor shall be paid the actual costs incurred by him, plus 15 percent to cover superintendence, use of ordinary tools, bonds, overhead expense and profit. "Actual costs" as herein used, shall be as determined in accordance with Article 20C herein. The payment shall be made under the terms and conditions governing final payment as provided for in "Acceptance and Final Payment" of the Agreement.

28. SUBCONTRACTS

The Contractor shall not make any subcontracts for performing any portion of the work included in the Contract without the written approval of the City Officer. This Contract having been made pursuant to the bid submitted by the Contractor and in reliance upon the Contractor's personal qualifications and responsibility, the City reserves the right to withhold approval of subcontracting such portions of the work which the City may deem would not be in the City's best interest.

The Contractor shall, as soon as practicable after signing the Contract, submit a separate written request to the City Officer for approval of each proposed subcontractor. Each request shall be on the forms provided by the City Officer and shall give the name and address of the proposed subcontractor. Upon request of the City Officer, the Contractor shall promptly furnish such additional information tending to establish that the proposed subcontractor has the necessary facilities, skill, integrity, past experience, and financial resources to perform the work in accordance with the terms and conditions of this Contract.

If the City Officer determines that the proposed subcontractor is acceptable to the City, he will so indicate his approval by signing and returning one copy of the form to the Contractor. If the determination is to the contrary, however, the City Officer will so notify the Contractor, who may thereupon submit another proposed subcontractor unless the Contractor decides to do the work himself.

Each subcontract entered into shall provide that the provisions of this Contract shall apply to such subcontractor and his officers and employees in all respects as if he and they were employees of the Contractor. The City Officer's approval of any subcontractor shall not relieve the Contractor of any of his responsibilities, duties, and liabilities hereunder. The Contractor shall be solely responsible to the City for the acts or defaults of his subcontractor and of such subcontractor's officers, agents, and employees, each of whom shall, for this purpose, be deemed to be the agent or employee of the Contractor to the extent of his subcontract.

The Contractor agrees to bind each subcontractor, and each subcontractor agrees to be bound by the terms of the Contract Documents insofar as applicable to his work. The Contractor and each subcontractor jointly and severally agree that no approval by the City of any proposed subcontractor, nor any subcontracts, nor anything in the Contract Documents shall create or be deemed to create any rights in favor of a subcontractor and against the City, nor shall be deemed or construed to impose upon the City any obligation, liability, or duty to a subcontractor, or to create any contractual relation whatsoever between a subcontractor and the City.

The provisions contained herein shall likewise apply to subletting of any portion of the work included in a previously approved subcontract.

29. ASSIGNMENTS

The Contractor shall not assign, transfer, convey, or otherwise dispose of this Contract, or his right to execute it, or his right, title or interest in it or any part thereof without the previous written consent of the Surety Company and the written approval of the City Officer, and then only with the prior approval of the City Council. The City Officer will ordinarily not favorably consider an assignment, transfer, or conveyance of the Contract unless an exigency occurs which was not known or could not have been foreseen by the Contractor as the time of bidding, or which is not judged to be in the best interest of the City.

The Contractor shall not assign, either legally or equitably, by power of attorney or otherwise, any of the monies due or to become due under this Contract or his claim thereto without the prior written consent of the Surety Company and the written approval of the City Officer and the Finance Department.

The approval by the City Officer of a particular assignment, transfer, or conveyance shall not dispense with such approval to any further or other assignments.

The approval of the City Officer of any assignment, transfer, or conveyance shall not operate to release the Contractor or Surety hereunder of any of the Contract obligations.

30. CLAIMS AGAINST CITY AND ACTION THEREON

No claim against the City for damages for breach of contract or compensation for extra work shall be made or asserted in any action or proceedings at law or in equity, unless the Contractor shall have strictly complied with all requirements relating to the giving of notice and information with respect to such claims all as hereinbefore provided.

31. NO CLAIMS AGAINST CITY OFFICERS, EMPLOYEES, OR AGENTS

No claims whatsoever shall be made by the Contractor against any officer, employee, or agent of the City of Detroit for, or on account of, anything done or omitted to be done in connection with this Contract.

32. PATENTS

The Contractor shall pay all royalties and license fees and shall hold and save the City and its officers, employees, and agents harmless from all liability of any nature or kind, including cost and expenses, for, or account of, any patented or unpatented invention, process, article, or appliance manufactured or used in the performance of the Contract, including its use by the City, unless otherwise specifically stipulated in the Contract Documents. In this respect the Contractor shall defend all suits or claims for infringement of any patent or license right.

In the event that any claim, suit, or action at law or in equity of any kind, whatsoever, is brought against the City, or its officers, employees, or agents, involving any such patents or license rights, then the City shall have the right to, and may, retain from any money due or to become due to the Contractor, such sufficient sum as is considered necessary to protect said City, or its officers, employees, or agents against loss, and such sum may be retained by the City until such claim or suit shall have been settled and satisfactory evidence to that effect shall have been furnished the City.

33. MONIES RETAINED AGAINST CLAIMS

If any claim shall be made by any person, firm, or corporation, including other contractors with the City on this project, against the City, or against the Contractor and the City for:

- a) Alleged loss, damage, or injury of the nature referred to in Article 5 hereof which, in the opinion of the Corporation Counsel, may not be covered by the public liability, property damage or contingent liability insurance policies, or, which, together with previously filed claims is in excess of the amount payable under such policies; or
- b) All infringement of patents or use of patented articles, tools, or other things, as referred to in Article 32 hereof; or
- c) Damage claimed to have been caused directly or indirectly by the failure of the Contractor to perform the work in strict accordance with this Contract.

the amount of such claim or so much thereof as the City Officer may deem necessary, may be withheld by the City, as security against such claim, from any money due hereunder, until such time as the commencement of an action thereon would be barred by law or until final adjudication of such action by a court of competent jurisdiction. The Corporation Counsel, in his discretion, may permit the Contractor to substitute other satisfactory security in lieu of the monies so withheld.

If no action is commenced upon such claim within a time limited therefor by law, the City, upon written demand of the Contractor and approval by the Corporation Counsel, shall return the amount so withheld without interest.

If any action on such claim is timely commenced and the liability of the City, or the Contractor, or both, shall have been established therein by final judgment of a court of competent jurisdiction, or if such claim shall be admitted by the Contractor to be valid, the City shall pay such judgment or admitted claim out of the monies retained by the City under the provisions of this Article, and return the balance, if any, without interest to the Contractor.

34. PAYMENTS WITHHELD

In addition to express provisions elsewhere contained in the Contract, the City may withhold from any payment otherwise due the Contractor, such amount as determined necessary to protect the City's interest, or, if it so elects, may withhold or nullify the whole or any progress payment, on account of:

- a) Unsatisfactory progress of the work not caused by conditions beyond the Contractor's control.
- b) Defective work not corrected.
- c) Contractor's failure to carry out instructions or orders of the Engineer or the City Officer.
- d) Claims filed or reasonable evidence of probable filing of claims against the Contractor.
- e) Damage to another contractor.
- f) A reasonable doubt that the Contract can be completed for the balance then unpaid.
- g) Failure of the Contractor to make proper payments to subcontractors or for materials or labor.

35. SERVICE OF NOTICES

The following addresses are hereby designated as places where all notices, directions, or other communication may be delivered, or to which they must be mailed:

Contractor: The business address designated in his proposal, or his office maintained at the site of the work.

City: The address of the City Officer stated in the Special Notice to Bidders as acting on behalf of the City of Detroit in this Contract.

Engineer: The address stated in the Advertisement.

Surety or Sureties on Contract Bonds: The home office, or to the agent or agents who executed the bonds on behalf of the Surety or Sureties.

Actual delivery of any such notice, direction, or communication to the aforesaid places, or depositing it in a postpaid wrapper addressed thereto in any post office box regularly maintained by the United States Post Office Department shall be conclusively deemed to be sufficient service thereof upon the above persons as of the date of such delivery or deposit.

The above address may be changed at any time by an instrument in writing executed and acknowledged by the party changing the address and delivered to the other party or parties.

Nothing herein contained shall, however, be deemed to preclude or tender inoperative the service of any notice, director, or communication upon the above parties personally, or, if the Contractor be a corporation, upon any officer or director thereof.

36. FAIR EMPLOYMENT PRACTICES

A. In accordance with the United States Constitution and all federal legislation and regulations governing fair employment practices and equal employment opportunity, including but not limited to Title VI of the Civil Rights Act of 1964 (P.L. 88.-352, 78 STAT. 252), and the United States Department of Justice Regulations (28 C.F.R. Part 42) issued pursuant to the Title and in accordance with the Michigan Constitution and all state laws and regulations governing fair employment practices and equal employment opportunity, including but not limited to the Michigan Civil Rights Act (P.A. 1976 No. 453) and the Michigan Handicappers Civil Rights Act (P.A. 1976 No. 220), the Contractor agrees that it will not discriminate against any person, employee, consultant or applicant for employment with respect to his (her) hire, tenure, terms, conditions or privileges of employment or hire because of his (her) religion, race, color, national origin, age, sex, height, weight, marital status, or handicap that is unrelated to the individuals ability to perform the duties of a particular job or position. The Contractor recognizes the right of the United States and the State of Michigan to seek judicial enforcement of the foregoing covenants against discrimination against itself or its subcontractors.

B. The Contractor agrees to comply with Chapter 2, Article 7, Ordinance No. 303-H as amended by Ordinance No. 330-H of the Detroit City Code, and those rules and procedures adopted by the Human Rights Department pursuant thereto.

The Contractor shall not discriminate against any employee or applicant for employment, training, education, or apprenticeship connected directly or indirectly with the performance of this Contract, with respect to his (her) hire, promotion, job assignment, tenure, terms, conditions or privileges of employment because of race, color, creed, national origin, age, marital status, handicap, public benefit status, sex or sexual orientation.

The Contractor further agrees to take affirmative action to achieve reasonable representation of minority groups and women on its work force. Such affirmative action shall include, but not be limited to the following: employment, promotion, demotion or transfer, recruiting or recruitment, advertising, layoff or termination, rates of pay or other forms of

compensation and selection for training or education, including apprenticeships. The Contractor shall promptly furnish any information required by the City or the Human Rights Department pursuant to this Section B.

C. In the event the Contractor fails to comply with the provisions of Section B above, or any affirmative action undertaking outlined in its proposal documents, if any, or with any rules, regulations or orders issued by the Human Rights Department, the City or the Human Rights Department may impose such contract sanctions as it may deem appropriate, including but not limited to:

- (1) cancellation, termination or suspension of this Contract in whole or in part;
- (2) recovering from the Contractor by set off, against the unpaid portion of the Contract price or as otherwise agreed by the parties to this Contract, liquidated damages in the amount of one-half of one percent (.005) of the Contract price not to exceed five hundred dollars (\$500.00) per day for each day of noncompliance, as determined by the Human Rights Department; and
- (3) such other remedies as may be provided by law.

D. The Contractor further agrees that it shall notify any subcontractor of its obligations relative to nondiscrimination and affirmative action under this Contract when soliciting same and shall include the provisions of this Article in any subcontract, as well as provide the City with a copy of any subcontract agreement. The Contractor further agrees to take such action with respect to any subcontract procurement as the City may direct as a means of enforcing such provisions including the aforementioned sanctions for noncompliance.

E. Breach of the terms and conditions of this Article may be regarded as a material breach of the Contract.

37. DETROIT INCOME TAX

The Contractor and each subcontractor shall comply with the provisions of Detroit Income Tax Ordinance No. 694-F, as amended to date, by withholding from employees' earnings such amounts as required by the Ordinance.

As a condition precedent to final payment under the Contract, in addition to the requirements of Article 8B of the Agreement, the Contractor shall file with and on forms provided by the City Officer, an affidavit for himself and one for each subcontractor that the required amounts have been withheld from employees' earnings and that such amounts have or will be paid to the City of Detroit in accordance with the above Ordinance.

If this Contract contains any unlawful provisions not an essential part of the Contract and which shall not appear to have been a controlling or material inducement to the making thereof, such unlawful provisions shall be of no effect. Upon the application of either party, the unlawful part shall be considered stricken from the Contract without affecting the remainder of the Contract.

39. ALL LEGAL PROVISIONS INCLUDED

It is the intent and agreement of the parties to this Contract that all legal provisions of law required to be inserted herein, shall be and are inserted herein. However, if through mistake or otherwise, any such provision is not herein inserted, or is not inserted in proper form, then upon application of either party, the Contract shall be amended so as to strictly comply with the law and without prejudice to the rights of either party hereunder.

TO BE COMPLETED AND SUBMITTED WITH BID



MBE SUBCONTRACTOR DATA

Project Name:

Purchasing Division File No.:

Prime Contractor Name:

Title:

Prime Contractor Signature:

Instructions:

Each subcontractor shall be certified by the Finance Department, Contract Compliance Unit and this form shall be completed, signed, and submitted in accordance with the instructions in the bid document. Any changes after submission require the approval of the Purchasing Director. Failure to comply with these instructions shall result in disqualification of the bid.

1. MBE

Address:

Scope of Work/Tasks:

Agreed
Price:

Percent of
Contract:

MBE
SIGNATURE:

2. MBE

Address:

Scope of Work/Tasks:

Agreed
Price:

Percent of
Contract:

MBE
SIGNATURE:

3. MBE

Address:

Scope of Work/Tasks:

Agreed
Price:

Percent of
Contract:

MBE SIGNATURE:
Total No. MBEs:

Total Contract Amount:

EXECUTIVE ORDER NO. 22 EFFECTIVE NOVEMBER 1, 1983

EXECUTIVE ORDER NO. 22 - EMPLOYMENT OF LOCAL LABOR ON PUBLICLY FUNDED CONSTRUCTION AND DEMOLITION PROJECTS

Per Executive Order No. 22, worker hours on any construction project funded in whole or in part by city, state, or federal funds shall be performed by not less than 50% bona fide Detroit residents, not less than 25% minorities and at least 5% women. Where possible, these percentages shall be applied on a craft-by-craft basis. For purposes of Executive Order No. 22, worker hours shall include work performed by persons filling apprenticeship and on-the-job training positions.

The contractor shall include Executive Order No. 22 by reference in all subcontracts at all levels.

For each project or portion thereof, documentation of compliance shall include: (1) a list of all proposed employees indicating address, telephone number, social security number, trade, sex and race or minority status, and projected worker hours for each; and (2) projected total worker hours. Documentation shall be submitted prior to contract award. After contract award, proposed changes in the workforce shall be submitted for approval.

Where, for reasons due to the nature of the contractor or trade, or for other reasons acceptable to the City, a list of intended employees is not submitted, a detailed plan will be submitted by the contractor which sets forth the entire proposed composition of the workforce, the manner in which such workforce is to be obtained, and any other details required by the City to assure sufficient specificity, intent to comply and ultimate compliance with Executive Order No. 22.

Failure to comply with the provisions of Executive Order No. 22 shall constitute a material breach of the contract, and the City may exercise those rights provided to it under the contract and by law. Sanctions may include, but are not limited to, termination of all or part of the contract, withholding of payment, and/or liquidated damages. Additionally, performance by the contractor in regard to Executive Order No. 22 may be considered in determining the contractor's awardability for future City contracts.

Any person who knowingly submits false information, makes misrepresentations, or commits fraud or any other willful violation under Executive Order No. 22 shall be subject to maximum civil liabilities and criminal penalties allowable under the law.

AFFIDAVIT OF RESIDENCY, MINORITY STATUS, AND SEX VERIFICATION

I, _____, THE CONTRACTOR, OR THE AUTHORIZED REPRESENTATIVE OF THE CONTRACTOR, DO HEREBY ATTEST THAT I HAVE EXAMINED THE PROOFS OF RESIDENCY AS INDICATED FOR EACH PERSON INCLUDED ON THE ATTACHED CONSTRUCTION/DEMOLITION WORKSITE EMPLOYEE ROSTER AS A DETROIT RESIDENT. I ALSO ATTEST THAT INDICATIONS FOR EACH PERSON FOR MINORITY STATUS OR RACE AND SEX ARE ACCURATE BASED UPON REPRESENTATIONS MADE TO ME BY THOSE PERSONS LISTED.

TO THE BEST OF MY KNOWLEDGE, BASED UPON THE PROOFS SUPPLIED AND REPRESENTATIONS MADE BY SAID PERSONS TO ME, ALL PERSONS LISTED ON THE ATTACHED ROSTER AS DETROIT RESIDENTS ARE BONA FIDE DETROIT RESIDENTS AS REQUIRED UNDER EXECUTIVE ORDER NO. 22, AND ARE OF THE MINORITY STATUS OR RACE AND SEX INDICATED.

I FULLY UNDERSTAND THAT THIS AFFIDAVIT IS A SUBSTANTIVE PART OF THE CONTRACT, AND THAT THE INTENTIONAL SUBMISSION BY THE CONTRACTOR OF FALSE INFORMATION ON THE ATTACHED ROSTER SHALL BE A MATERIAL BREACH OF THE CONTRACT, AND THAT THE CITY MAY EXERCISE THOSE RIGHTS PROVIDED TO IT UNDER THE CONTRACT AND BY LAW.

I FURTHER UNDERSTAND THAT ANY PERSON WHO KNOWINGLY SUBMITS FALSE INFORMATION MAKES MISREPRESENTATIONS OR COMMITS FRAUD OR ANY OTHER WILLFUL VIOLATION UNDER EXECUTIVE ORDER NO. 22 SHALL BE SUBJECT TO THE MAXIMUM CIVIL LIABILITIES AND CRIMINAL PENALTIES ALLOWABLE UNDER THE LAW.

CONTRACT OR PROJECT NAME

SIGNATURE

DATE

CONTRACT NUMBER

TITLE OR POSITION

ADMINISTERING CITY DEPARTMENT

CONTRACTOR/COMPANY NAME

ADM. DEPT. PROJECT COORDINATOR

ADDRESS (include city and state)

TELEPHONE NUMBER (include area code)

*STATE OF MICHIGAN
COUNTY OF _____

SS: _____

Subscribed and Sworn to before me, a Notary Public, in and for said State and County, this _____ day of _____ 19____.

SIGNATURE OF NOTARY PUBLIC

PRINTED NAME

My Commission expires ____/____/____ (Month, Day, Year)

*THIS NOTARIZED AFFIDAVIT MUST BE ATTACHED TO AND SUBMITTED WITH THE CONSTRUCTION/DEMOLITION WORKSITE EMPLOYEE ROSTER FOR THE CORRESPONDING PROJECT TO THE FINANCE DEPARTMENT CONTRACT COMPLIANCE DIVISION, 1240 CITY-COUNTY BUILDING, DETROIT, MICHIGAN 48226.

of

GENERAL CONTRACTOR/SUBCONTRACTOR	PROJECTED TOTAL WORKER HOURS	DATE

ADMINISTERING DEPARTMENT _____ ADMIN. DEPT. PROJECT COORDINATOR

PLEASE CHECK:

☐ INITIAL ROSTER

☐ REVISED ROSTER (E.O. 22 REF. NO. _____)

☐ FINAL ROSTER (LIST ACTUAL HOURS)

Three (3) Types Of Proof	Telephone Number	Social Security Number	Minority Status/ Race	Sex	Projected Work Hours
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[illegible]

SUBMIT TO:	Total Projected Work Hours
Finance Department, Contract Compliance	

Revised 10/18/89

SUBMIT TO: Finance Department, Contract Compliance 1240 CITY-COUNTY BUILDING DETROIT, MI 48226 (313) 224-1759		Total Projected Work Hours
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
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100	100	100

NON-COLLUSION AFFIDAVIT OF PRIME BIDDER

State of _____)
County of _____) ss.

_____, being
first duly sworn, deposes and says that:

(1) He is _____, of
(Owner, Partner, Officer, Representative, or Agent)
_____, the
Bidder that has submitted the attached Bid,

(2) He is fully informed respecting the preparation and contents of the
attached Bid and of all pertinent circumstances respecting such Bid;

(3) Such Bid is genuine and is not a collusive or sham Bid;

(4) Neither the said Bidder nor any of its officers, partners, owners, agents,
representatives, employees or parties in interest, including this affiant, has in any
way colluded, conspired, connived or agreed, directly or indirectly with any other
Bidder, firm or person to submit a collusive or sham Bid in connection with the Con-
tract for which the attached Bid has been submitted or to refrain from bidding in
connection with such Contract, or has in any manner, directly or indirectly, sought
by agreement or collusion or communication or conference with any other Bidder, firm
or person to fix the price or prices in the attached Bid or of any other Bidder, or
to fix any overhead, profit or cost element of the Bid price or the Bid price of any
other Bidder, or to secure through any collusion, conspiracy, connivance or unlawful
agreement any advantage against the City of Detroit or any person interested in the
proposed Contract; and

(5) The price or prices quoted in the attached Bid are fair and proper and are
not tainted by any collusion, conspiracy, connivance or unlawful agreement on the
part of the Bidder or any of its agents, representatives, owners, employees, or
parties in interest, including this affiant.

(Signed) _____

Title

Subscribed and sworn to before me

this _____ day of _____, 19 _____

Title

My commission expires _____

NON-COLLUSION AFFIDAVIT OF SUBCONTRACTOR

State of _____ SS,

County of _____

_____, being first duly sworn, deposes and says that:

(1) He is _____
(owner, partner, officer, representative, or agent)

of _____ herein referred to as the
"Subcontractor";

(2) He is fully informed respecting the preparation and contents of the Subcontractor's
Proposal submitted by the Subcontractor to _____

_____, the Contractor for certain
work in connection with the _____ Contract pertaining to
the _____ Project
in Detroit, Michigan.

(3) Such Subcontractor's Proposal is genuine and is not a collusive or sham Proposal:

(4) Neither the Subcontractor nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived, or agreed, directly or indirectly with any other Bidder, firm or person to submit a collusive or sham Proposal in connection with such Contract, or to refrain from submitting a proposal in connection with such Contract, or has in any manner, directly or indirectly, sought by unlawful agreement or connivance with any other Bidder, firm or person to fix the price or prices in said Subcontractor's Proposal, or to fix any overhead, profit or cost element of the price or prices in said Subcontractor's Proposal, or to secure through collusion, conspiracy, connivance or unlawful agreement any advantage against the City of Detroit or any person interested in the proposal contract; and

NON-COLLUSION AFFIDAVIT OF SUBCONTRACTOR

(Continued)

(5) The price or prices quoted in the Subcontractor's Proposal are fair and proper and are not tainted by any collusion, conspiracy, connivance, or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

(Signed) _____

Title

Subscribed and sworn to before me

this ____ day of _____, 19 ____

Title

My commission expires _____

The Human Rights Department has responsibility for ensuring that contractors with the City of Detroit comply with the Detroit Fair Employment Practices Ordinance 303-H, as amended by Ordinance 330-H, which requires affirmative action to provide equal employment opportunity.

We have been informed that you may be contracting with the City of Detroit. Therefore, it is necessary that you send to us:

A copy of your company's equal employment opportunity policy as officially adopted. This may be a statement on company letterhead and signed by an official, indicating that your company does not discriminate in its employment practices and takes affirmative action to recruit and hire minority persons as required by Section 2-7-3 of Ordinance 303-H.

A completed Contract Compliance Report (EEO-1) listing current employees by sex and race, and establishing minority and female hiring goals for all occupational categories of employment utilized at your company.

Completed EEO-2 form. Directions for completion are listed on the form.

A statement on company letterhead that no subcontractor will start work on _____ until they are cleared by the Human Rights Department relative to Ordinance 303-H.

The name, address, telephone number, contact person, dollar amount and approximate work start date on all subcontractors to be used should be provided to this department as soon as they are identified.

A copy of the company's Affirmative Action Plan.

The addresses of any Metropolitan Detroit area offices or branches.

Please send this information to my attention by _____.

If you have any questions, call me at _____.

Sincerely,

EEO/AA Officer
Affirmative Action Unit

Enclosures

CONTRACT COMPLIANCE REPORT

(A) OCCUPATIONAL CATEGORIES	(B) CURRENT EMPLOYEES										(C) HIRES ANTICIPATED			(D) CONTINUING GOALS		
	Total	Male	Fem	Black		Spanish American		Asian		American Indian		Total	Minority	Female	% Minority	%Female
				Male	Fem	Male	Fem	Male	Fem	Male	Fem					
Officials & Managers																
Supervisors & Foremen																
Professional																
Sales																
Clerical																
Technical																
Craftsmen																
Operatives																
Laborers																
Service																
Apprentices																
Trainees																
TOTALS																

(Name of Company)

(Date)

(Signature/Title of Official)

INSTRUCTIONS

1. In Column A (Occupational Categories), broad categories of employees are listed, but where a job category includes levels or functions which are significantly different at your company, firm or organization, list each separately: e.g. professional: engineer, accountant, etc; or craftsmen: mechanic, ironworker, operating engineer, etc.
2. In Column B (Current Employees), list current employees in each applicable category or job title showing the total number of males and females, as well as a breakdown of any minority employees as either: Black, Spanish-American, Asian or American Indian.
3. In Column C (Hires Anticipated), project all hiring opportunities expected during the next six months due to retirements, resignations, promotions, normal turnover, expansion, etc. Project the number of these vacancies which will be utilized to place (1) minority group employees, and (2) females in various job categories.
4. In Column D (Continuing Goals), to cover unexpected workforce changes, adopt continuing percentile goals for minority and female hiring in each category utilized, e.g. Clerical: minority 50%, female 50%; Technical: minority 33%, female 25%. COLUMN D MUST BE COMPLETED.
5. This form establishes the employer's minority and female hiring goals. It must be signed by a company official responsible for implementation of the affirmative action plan.

FAILURE TO SUBMIT ACCEPTABLE MINORITY HIRING GOALS COVERING ALL HIRING OPPORTUNITIES CONSTITUTES NON-COMPLIANCE WITH THE CONTRACTUAL REQUIREMENTS OF THE CITY OF DETROIT AND MAY PREVENT AWARD OF FUTURE CONTRACTS.

PLEASE RETURN WITHIN 7 DAYS TO:

City of Detroit Human Rights Department
Attention: Affirmative Action Unit
150 Michigan Avenue - 4th Floor
Detroit, Michigan 48226

DESCRIPTION OF OCCUPATIONAL CATEGORIES

Officials & Managers:

Administrative Personnel who set broad policies, exercise over-all responsibility for execution of these policies, and direct individual departments or special phases of a firm's operations. Includes: officers, executives, plant managers, department managers, etc.

Supervisors & Foremen:

Includes those who supervise employees but are not directly involved in setting company policy and are included in the above category.

Professional:

Occupations requiring college graduation or equivalent experience. Includes: accountants, architects, designers, engineers, scientists, etc.

Technical:

Occupations requiring basic knowledge or skill which can be obtained through approximately two years of post high school education. Includes: draftsmen, engineering aides, nurses, laboratory technicians, etc.

Sales:

Occupations engaged wholly or primarily in direct selling.

Clerical:

Includes: clerk-typists, stenographers, bookkeepers, cashiers, dispatchers, messengers, office machine and keypunch operators, shipping and receiving clerks, etc.

Craftsmen:

Includes: building trades, mechanics and repairmen, skilled machining occupations, compositors and typesetters, tool and die makers, tailors, etc.

Operatives:

Includes: machine operators, assemblers, truck drivers, welders, etc.

Laborers:

Includes: construction laborers, car washers, warehouse dockmen, etc.

Service:

Includes: guards, counter and fountain workers, janitors, etc.

Apprentice:

Persons involved in union-sponsored training programs for skilled trades.

Trainees:

Persons other than union apprentices involved in training programs.

ACKNOWLEDGMENT

STATE OF MICHIGAN }
COUNTY OF } ss.

_____ the _____ of
_____, a _____ corporation
personally appeared and duly acknowledged before me this _____ day of _____,
19____, that on _____ 19____, he (she) duly executed on behalf of the corporation, Contract
_____ together with all attachments thereto, if any, between the City of Detroit and the corporation.

_____ further agrees to waive on behalf of the
corporation any defense the corporation may have with respect to the validity of the execution of this
acknowledgment.

Signature

Notary Public

My commission expires: _____

Sole Proprietor Acknowledgement

STATE OF MICHIGAN }
COUNTY OF WAYNE } ss.

On this _____ day of _____, 19____, before
me personally appeared _____, the

_____ ,
to me known to be the person described in and who executed the foregoing instrument, and acknowledged that
he she executed the same as his/ her free and voluntary act and deed.

Notary Public, Wayne County, Michigan
My Commission Expires:

Partnership Acknowledgement

STATE OF MICHIGAN }
COUNTY OF WAYNE } ss.

The foregoing instrument was acknowledged before me this _____ day of _____ ,
19____, by _____ , General Partner, on behalf of
_____, a partnership.

Notary Public, Wayne County, Michigan
My Commission Expires:

RESOLUTION OF CORPORATE AUTHORITY

I, _____, Corporate Secretary of

_____ , a _____

Corporation (the "Company") DO HEREBY CERTIFY that the following is a true and correct excerpt from the minutes of the meeting of the Board of Directors duly called and held on _____ and that the same is now in full force and effect.

"RESOLVED, that the Chairman, the President, each Vice President, the Treasurer and the Secretary and each of them, hereby is authorized to execute and deliver, in the name and on behalf of the Company and under its corporate seal or otherwise, any agreement or other instrument or document in connection with any matter of transaction that shall have been duly approved; the execution and delivery of any agreement, document, or other instrument, or document in connection with any matter of transaction that shall have been duly approved; the execution and delivery of any agreement, document, or other instrument by any of such officers to be conclusive evidence of such approval."

I FURTHER CERTIFY that _____ is Chairman of the Board, and _____ is President, _____ are Vice Presidents, _____ is Treasurer, _____ is Secretary.

I FURTHER CERTIFY that any of the aforementioned officers of the Company are authorized to execute or guarantee and commit the Company to the conditions, obligations, stipulations and undertakings contained in the (identify the agreement by name, date, and parties)

and that all necessary corporate approvals have been obtained in relationship thereto.

IN WITNESS THEREOF, I have set my hand this _____ day of _____, 19 ____

CORPORATE SEAL
(if any)

Corporate Secretary

If partnership, please complete the following:

CERTIFICATE OF PARTNERSHIP AUTHORITY

I _____, General Partner in
_____, a _____
Partnership (the "Partnership")

DO HEREBY CERTIFY that I am a General Partner in the Partnership formulated pursuant to a partnership Agreement dated _____, 19____, and that the following is a true and correct excerpt from the minutes of the meeting of the General Partnership held on _____ that the same is now in full force and effect: and

"That each General Partner is authorized to execute and deliver, in the name and on behalf of the Partnership any agreement or other instrument or document in connection with any matter or transaction that shall have been duly approved; the execution and delivery of any agreement, document, or other instrument, or document in connection with any matter or transaction that shall have been approved; the execution and delivery of any agreement, document, or other instrument by a general partner to be conclusive evidence of such approval."

I FURTHER CERTIFY that the following persons are General Partners:

I FURTHER CERTIFY that any of the aforementioned General Partners of the Partnership are authorized to execute or guarantee and commit the assets of the Partnership to the conditions, obligations, stipulations and undertakings contained in the (identify agreement by name, date and parties) _____

and that all necessary approvals have been obtained in relationship thereto.

IN WITNESS THEREOF, I have set my hand this _____ day of _____, 19____.

General Partner

BIDDER'S COMPANY NAME _____

FILE NO. _____

PAGE NO. 7

ADDRESS: _____

CITY: _____ STATE: _____ ZIP CODE: _____

PARENT COMPANY/AFFILIATE _____

In accordance with Ordinance No. 29-90, Chapter 18, Article 5, the City of Detroit is prohibited from engaging in all contractual activities with entities that do business in South Africa.

LISTING OF ENTITIES: The City of Detroit reserves the right to use the list of entities that do business in South Africa as compiled by the State of Michigan pursuant to Michigan's Public Acts 252 & 253 of 1988. These lists shall act only as guides and shall not be definitive.

COUNTRY OF ORIGIN OF GOODS OFFERED: The ordinance provides that the origin of any goods offered, to the best of the person's or entity's knowledge must be included as a part of the bid or request for proposal document. The origin(s) of goods offered under the above file is (are) as follows: _____. Failure to include origin(s) of goods may be grounds to reject your bid. (Include attachment if necessary)

CONTRACT TERMINATION UPON SUBSEQUENT DETERMINATION OF INELIGIBILITY: By signing this affidavit each contractor not exempted under the ordinance shall grant the City the authority to terminate the contract and to refuse payment for goods received or services performed if the City determines that the person or entity under contract with the City was ineligible under the provision of this ordinance at the time of entering the contract or became ineligible thereafter. Disqualification of an entity from eligibility for providing goods or services to the City of Detroit shall be reviewed on an individual contract by contract basis upon request from the disqualified entity and upon a showing of corrective action indicating that violations are not likely to re-occur.

EXEMPTIONS AND PROTEST PROCEDURE: The ordinance provides the sole basis for exemptions and outline the protest procedure in the award of contracts. Contractors with South African ties, as defined by Ordinance, who feel they are eligible for an exemption must submit along with their bid a letter of explanation.

CERTIFICATION: Contractor hereby certifies that the entity offering to provide goods or services under this document is not doing business with or in South Africa. Contractor further certifies that it does not control or is not controlled by a person or company doing business in or with South Africa and that the goods offered are not manufactured, produced, assembled, grown or mined in South Africa.

Signed: _____, Title: _____, Date: _____

(Note: Signature page of this bid must also be executed.)

The person who signs this document must have the authority to commit the contractor to this affidavit.

FAILURE TO SUBMIT THIS SIGNED AFFIDAVIT OR PROVIDE A LETTER REQUESTING EXEMPTION MAY BE GROUNDS TO REJECT YOUR BID.

continued

ORDINANCE NO. 29-90

CHAPTER 18

ARTICLE 5

TO PROHIBIT CITY OF DETROIT
FROM ENGAGING IN ALL
CONTRACTUAL ACTIVITIES WITH
ENTITIES THAT DO BUSINESS IN
AND WITH SOUTH AFRICA, ETC.

AN ORDINANCE to amend Chapter 18 of the 1984 Detroit City Code by amending Sections 18-5-2, 18-5-21, 18-5-22, 18-5-23, 18-5-24, 18-5-25, 18-5-26, 18-5-27, 18-5-28, 18-5-29, 18-5-30 and adding 18-5-30.1 which prohibits the City of Detroit from engaging in all contractual activities with entities that do business in and with South Africa, with entities that are organized under South African Law, and with the Government of South Africa. The amendments include removing quasi-public authorities from the definition of the term "City", adding a new subsection prohibiting the transfer of City funds to authorities that do business with South Africa, decreasing the percentage of stock from 50% to 25% held by an entity in the definition of the term "Control", providing that the State of Michigan list of firms doing business in South Africa along with bidder affidavits shall be used by the Purchasing Director, providing the Purchasing Director shall make a contract by contract designation for exemption and City Council shall make the final determination, removing guideline language related to specific rules and regulations to be promulgated, adding City Council as the approval body for rules and regulations, and providing a protest timeline for exemption appeals to City Council.

IT IS HEREBY ORDAINED BY THE PEOPLE OF THE CITY OF DETROIT THAT:

Section 1. Article 5, Chapter 18 of the 1984 Detroit City Code be amended by amending Sections 18-5-2, 18-5-21, 18-5-22, 18-5-23, 18-5-24, 18-5-25, 18-5-26, 18-5-27, 18-5-28, 18-5-29, 18-5-30 and adding 18-5-30.1 to read as follows:

Sec. 18-5-2. Manner of Purchasing.

All purchases by the Purchasing Director shall be made in the following manner:

(1) If the purchase entails a major expenditure, the Purchasing Director

shall provide for the procurement of competitive bids as follows:

a. Prepare the invitation for bids, describing the requirements of the city clearly, accurately and completely, but avoiding restrictive specifications which might unduly limit the number of bidders;

b. Publicize the invitation for bids by advertising for bids one or more times in the newspaper designated to print official business of the City. In cases where the Purchasing Director deems it advisable, he may also advertise for such bids in trade journals and other publications, and may send copies of such advertisement to persons and firms likely to be interested therein. Such advertisement shall accurately and clearly describe or refer to the subject matter of the proposed purchase, and may also refer the bidder to specifications on file in the Purchasing Director's office. Such advertisement shall contain information also as to the time and place of submitting bids and such other information from the specifications as the Purchasing Director shall deem advisable in the interest of the City. After publication of one advertisement, specifications shall not be changed without the publication of a new advertisement calling attention to such change. Sufficient time shall be allowed to enable prospective bidders to prepare and submit bids before the time set for public opening of bids;

c. Receive written bids submitted by prospective contractors and determine whether any of them must be disqualified pursuant to Sections 18-5-21, 18-5-22, 18-5-23, 18-5-24, 18-5-25, 18-5-26, 18-5-27, 18-5-28, 18-5-29 and 18-5-30.

d. In comparing bids, the bid of any Detroit-based firm shall be deemed a better bid than the bid of any competing firm which is not Detroit-based, whenever the bid of such competing firm shall be equal to or higher than the bid of the Detroit-based firm, after the appropriate equalization percentage credit from the equalization allowance table has been applied to the bid of the Detroit-based firm.

Equalization Allowance Table

Contract Amount	Equalization Percentage
Up to \$10,000	10%
\$10,000.01-\$100,000.00	8%
\$100,000.01-\$500,000.00	6%
\$500,000.01-\$1,000,000.00	4%
\$1,000,000.01 and over	1%

The firm making the lowest bid thus

evaluated shall be deemed the lowest bidder. No contract hereafter awarded by reason of an equalization percentage credit shall be sublet to any subcontractor which is not a Detroit-based firm. Any bidder who claims entitlement to an equalization percentage credit shall agree to make available to the City the records necessary to establish eligibility;

e. After applying any equalization percentage credit, as provided above, the contract shall be awarded to the lowest responsible bidder thus evaluated;

f. The above requirements shall not be applicable if any one of the following conditions is found to exist:

1. The expenditure involved is not "major";

2. Public exigencies require the immediate delivery of the articles or performance of the service;

3. Only one source of supply is available and the Purchasing Director shall so certify;

4. The services to be performed are professional in nature; or

5. The item to be acquired is rare or unique.

(2) If the purchase or sale entails an expenditure which is not "major", the Purchasing Director is authorized to let the contract subject to the following conditions:

a. The practice of competitive bidding is required, but formal advertising is required only for contracts over two thousand dollars (\$2,000.00). An equalization percentage credit shall be allowed, as provided in subsection (1)d. of this section, whenever there is full and free competitive bidding. However, the Purchasing Director may limit bidding to Detroit-based small business concerns, in which event an equalization percentage credit shall be allowed;

b. In soliciting bids, the Purchasing Director shall affirmatively seek out Detroit-based small business concerns which are owned or controlled by socially or economically disadvantaged persons;

c. The Purchasing Director must make a determination that the prospective contractor is responsible. The Purchasing Director should utilize all available information from within the division and other City departments, from the prospective contractor, from banks and other financial companies, in order to ascertain whether the prospective contractor is responsible, under the guidelines set forth under "lowest responsible bidder" as defined in section 18-5-1;

d. No contract shall be awarded by the Purchasing Director, under the limited or "set-aside" bidding procedure authorized by subsection (2)a., until he shall have made a determination that the contract price is reasonable, based upon the following criteria:

1. Other recent contracts for the same or similar materials or services, under the same or similar specifications;

2. The price bid by the prospective contractor is validated by a federal, trade, or other recognized index to the extent possible;

3. Allowance for a reasonable profit considering prevalent market conditions; and

4. Any other relevant factors.

e. Whenever the Purchasing Director shall award a "set-aside" contract as permitted under subsection (2)a. of this section, he shall prepare, sign and place in the contract file a statement of the facts on which the determination of responsibility was based, the names of all prospective contractors who were solicited, and the basis for making a determination that the accepted contract price was reasonable. If the contract is subject to City Council approval, a copy of such statement shall be submitted with the proposed contract.

Sec. 18-5-21. Contractual Services-Prohibited Transactions.

The City of Detroit in exercising its power to make economic decisions as a participant in the market shall restrict, to the extent permissible and consistent with the City's interest, its contracting relative to goods and services to persons or entities which do not do business in or with South Africa.

Sec. 18-5-22. Definitions.

a. "Bids" shall include requests for proposals (RFP), invitations for bids (IFB), and other similar documents.

b. "City" shall mean the City of Detroit, and all agencies thereof.

c. "Company" shall mean an association of persons carrying on a commercial or industrial enterprise. Company includes, but is not limited to, a partnership, corporation, association, or joint stock company.

d. "Control" shall mean:

1. The entity beneficially owns or controls (whether directly or indirectly) twenty-five (25) percent or more of the voting securities of the entity, if no other entity owns or controls (whether directly or indirectly) an equal or larger percentage; or

2. The entity or person controls in fact any other entity or person. Such control consists of the authority or ability of the entity to establish or direct the general policies or day to day operations of the entity; or

3. The entity is operated by another entity pursuant to the provisions of an exclusive management contract; or

4. A majority of the members of the board of directors of the entity are also members of the comparable governing body of the other entity; or

5. The entity has the authority to appoint the majority of the members of the board of directors of the other entity; or

6. The entity has the authority to appoint the chief operating officer of the other entity.

e. "Doing Business" shall mean (1) having any operations, trade, work, license agreements, franchise agreements, management agreements, exclusive distributor agreements, majority-owned or controlled subsidiaries, controlling parent companies, supplies, equipment, any rights in real or personal property or contracts; (2) providing financial services; (3) promoting importation or sale of gold or gold products or diamonds; (4) providing or receiving goods or services.

f. "Exclusive Distributor" shall mean an entity which is the sole agent for sale of another entity or company's goods or services within a specified geographic area or market.

g. "Franchise" shall mean an agreement under which the franchisee undertakes to conduct a business or sell a product or service in accordance with methods and procedures prescribed by the franchise and under which the franchisor undertakes to assist the franchisee through advertising, promotion, and other advisory services.

h. "Government of South Africa" or "South Africa" shall mean the Republic of South Africa and any territory controlled or administered by the Republic of South Africa and any public or quasi-public entity operating as an agency or political subdivision of the Republic of South Africa, including, but not limited to, municipal, provincial, national, or other government bodies (including all departments, agencies, and other instrumentalities of such bodies), public utilities, public facilities, or any national corporation in South Africa or controlled by South Africa.

i. "Licensing Agreement" shall mean a contract with an entity or company for the sale or lease of a license that permits the use of a patent, trademark, or other technology by another individual or company.

j. "Management Agreement" shall mean a contract in which a company or entity is chosen or appointed to manage, direct, or administer the affairs of another entity or company.

k. "Person or Entity" shall include all individuals, companies, domestic corporations, foreign corporations, associations, syndicates, joint stock companies, partnerships of every kind, joint ventures, clubs, unincorporated associations, and public agencies.

Sec. 18-5-23. Prohibited Transactions.

(a) The City shall not enter into or renew any contract or do business with any person or company that (1) is doing business with or in South Africa; (2) controls or is controlled by a person or company doing business in or with South Africa. The City shall not purchase any products manufactured, produced, assembled, grown or mined in South Africa. Every bid document and contract in which this article is applicable shall contain a recital of this article.

(b) The City shall include provisions in all contracts with outside authorities and corporations requiring that City transferred funds not be used to purchase services or goods from entities doing business in South Africa as described in this Ordinance. The Annual City Budget Closing resolution shall state that City Funds for transfer to outside authorities and corporations is prohibited if such authorities and corporations have failed to adopt South Africa guidelines and purchasing policies that meet the goals of this Ordinance.

Sec. 18-5-24. Statement Required from Bidders.

a. Prior to reviewing responses to bid documents for contracts covered by this article, the Purchasing Director shall obtain from each person or entity seeking of a contract award "a sworn affidavit" from an authorized representative, on a form to be provided, declaring the nature and extent to which said person or entity is doing business in or with South Africa unless the bidder has already submitted said statement in response to a previous bid or proposal request and the City has no reason to believe, based on notice from the bidder or otherwise, that the bidders' South Africa business connections have changed. In the case of

goods to be provided, a statement shall be included as to the origin of said goods, to the best of the person's or entity's knowledge. Further, said person or entity shall promptly notify the awarding authority in writing if there is a subsequent change in the nature or extent of its business in or with South Africa. Failure to include the statement of business relationship in South Africa in any bid shall make such bid a non-responsive bid.

b. The Purchasing Director shall check to see if the bidder is on the most recent list of the Treasurer of the State of Michigan compiled pursuant to the State of Michigan's Public Acts 252 and 253 of 1988. However, these lists shall act only as guides and shall not be definitive. A company may be sanctioned by this Ordinance and yet not be named on one of the lists consulted. Conversely, a company may be on one of the lists consulted, but other evidence may demonstrate that the Ordinance does not require sanction. The Purchasing Director shall add to the list those entities, who by affidavit, reveal a business relationship with South Africa.

c. The Purchasing Director shall file this list and exemption affidavits with the Office of the City Clerk and with City Council's Research and Analysis Division after ninety (90) days.

Sec. 18-5-25. Exemptions.

In order to promote the purposes of this article and to protect the City's interests, exemption(s) from the provisions of Section 18-5-23 delineated in subsections a through j below shall be applied on an individual basis, and every contract so exempt shall be forwarded to the City Clerk with a statement from the Purchasing Director denoting the exact nature and reasons an exemption has been designated. The City Council shall review the exempted contract and determine whether an exemption for purpose of awarding the contract is in compliance with provisions of this Ordinance and is warranted. The City Council shall make a determination of an exemption for a contract that has been disqualified by the Purchasing Director for award on the sole basis of failing to meet provisions Section 18-5-25 a through j on an individual contract by contract basis under provisions contained in Section 18-5-28.

a. Contracts, including any amendments, modifications, or renewals of such contracts, in existence at the time of the effective date of this article, and

any subsequent amendments, modifications, or renewals of such contracts in which the scope of duration of the underlying contract is not significantly altered;

b. Any contract advertised and made available to the public or any competitive and sealed bids received by the City of Detroit or entered into prior to the effective date of this article;

c. Contracts for the purchase of any sole source goods and services;

d. Contracts wherein application of this article would disqualify all but a single bidder;

e. Contracts for the acquisition of news publication services;

f. Contracts for acquisition of international transportation services;

g. Contracts for international long distance telephone, telegraph, and mail services so long as domestic service within South Africa is not provided;

h. Contracts with a financial institution which engages in activities required to assure repayment of credit extended before the effective date of this article;

i. Contracts wherein application of Section 18-5-23 with reasonable foreseeability would result in a significant loss of quality or significant additional cost to the City;

j. Wherein the Purchasing Director recommends and wherein the City Council determines that sanction under this Ordinance would otherwise be contrary to the best interests of the City.

In the event that Purchasing Director believes that a bidder meets an exemption under Sub-Sections 18-5-25 a through j, the Purchasing Director shall give notice in writing to the City Council and shall seek a waiver through exemption. The City Council shall determine whether or not any waiver is given by exemption under this section.

Sec. 18-5-28. Contract Termination Upon Subsequent Determination of Ineligibility.

Each contract not exempted under this article shall contain a provision granting the City the authority to terminate the contract and to refuse payment for goods received or services performed if the City determines that the person or entity under contract with the City was ineligible under this article at the time of entering the contract or became ineligible thereafter. Disqualification of an entity from eligibility for providing goods or services to the City of Detroit shall be reviewed on an individual contract by contract basis upon request from the dis-

qualified entity and upon a showing of corrective action indicating that violations are not likely to reoccur.

Sec. 18-5-27. Rules and Regulations.

The Purchasing Director, shall promulgate rules and regulations subject to the approval of the City Council. Such rules and regulations shall include, but not be limited to, the following:

- a. The form and content of the oath to be obtained from prospective bidders;
- b. Standards for determining eligibility of persons or entities under this article;
- c. Guidelines for the granting of exemptions under Section 18-5-25;
- d. Preparation of specific provisions in bid documents, contracts and other documents which implement this article.

Sec. 18-5-28. Protest to City Council.

Any unsuccessful entity disqualified on a bid or contract solely by virtue of the procurement prohibition of this article shall have the right to protest the application of this article to the City Council provided he gives written notice setting forth the basis for his claim within seven (7) calendar days. Upon receipt of such notice by the city clerk, the City Council shall schedule a hearing within ten (10) city council committee of the whole days and render a decision either prohibiting the bid or contract, allowing the bid or contract, or waiving the prohibition of the bid or contract.

Sec. 18-5-29. Consistency with Federal or State Law.

The provisions of this article shall not be applicable to those instances wherein the application of Section 18-5-23 would be prohibited by Federal or State Law or where such application would violate or

be inconsistent with the terms or conditions of a grant or contract with an agency of the United States, the State of Michigan, or the instruction of an authorized representative of any such agency with respect to any such grant or contract.

Sec. 18-5-30. Repeal by City Council.

This ordinance may be repealed by resolution of two-thirds (2/3) of City Council when the policy of apartheid is ended in South Africa.

Sec. 18-5-30.1. Consistency with previous enactments.

Effective January 1, 1991, the provisions of these amendments to Sections 18-5-2, 18-5-21, 18-5-22, 18-5-23, 18-5-24, 18-5-25, 18-5-26, 18-5-27, 18-5-28, 18-5-29 and 18-5-30 shall supercede any contrary code provisions and shall otherwise take effect ninety (90) days after adoption.

Section 2. All ordinances or parts of ordinances in conflict with this ordinance are hereby repealed.

Section 3. This ordinance is declared necessary for the preservation of the public peace, health, safety, and welfare of the People of the City of Detroit and shall take immediate effect.

(J.C.C. p.	November 28, 1990)
Passed	December 7, 1990
Published	December 21, 1990
Effective	December 21, 1990

(Pursuant to Section 18-5-30.1, certain provisions of this ordinance will take effect on March 7, 1991).

JAMES H. BRADLEY,
City Clerk

<p align="center">IRREVOCABLE BANK LETTER OF CREDIT FOR CITY OF DETROIT CONTRACT</p>	<p>CONTRACT NUMBER</p>
<p>PRINCIPAL (Contractor)</p>	<p>DATE OF BID</p>
<p>BANK</p>	<p>DATE BID SECURITY EXECUTED</p>

KNOW ALL MEN BY THESE PRESENTS:

WHEREAS, The Principal above named has submitted to the City of Detroit, Michigan, a municipal corporation, hereinafter called the City, a proposal or bid, dated as shown above, on the above-numbered contract.

NOW THEREFORE, We, the Bank, bind ourselves to the City in the amount of the Irrevocable Bank Letter of Credit stated below, that if the above proposal is accepted, the Principal will promptly enter into contract in accordance with the proposal, otherwise the Bank will pay the amount stated above unto the City of Detroit as liquidated damages.

WE hereby open our Irrevocable Bank Letter of Credit No. _____
in favor of CITY OF DETROIT, a municipal corporation for the account of the above principal (contractor) for
a sum not exceeding _____
(\$ _____) U.S. currency available by City of Detroit draft at sight on _____

(Name and Address of Bank)

All drafts drawn under this credit must be marked "Drawn under _____,
_____, Letter of Credit No. _____,
dated _____."

Except so far as otherwise expressly stated herein, this credit is subject to the Uniform Customs and Practice for Documentary Credits (1962 Revision) International Chamber of Commerce Brochure No. 222.

We engage with you that each draft drawn under, and in compliance with, the terms of this credit will be duly honored if presented at this office.

SIGNED AND SEALED on the date indicated above.

BANK

BUSINESS ADDRESS

AFFIX
CORPORATE
SEAL

INSTRUCTIONS

1. This form shall be used for City of Detroit contracts wherever an Irrevocable Bank Letter of Credit is utilized for bid security. There shall be no deviation from this form except as authorized by the Corporation Counsel of the City of Detroit.

2. The Bank furnishing the Irrevocable Bank Letter of Credit may be any bank or banking institution authorized to do business as such in the State of Michigan and satisfactory to the City of Detroit.

3. The date of the Irrevocable Bank Letter of Credit must not be prior to the date of the instrument in connection with which it is given.

BID BOND City of Detroit Construction Contract	Contract Number
Principal	Date of Bid
Surety	Date Bond Executed

Amount of Bond (express in words and figures).

KNOW ALL MEN BY THESE PRESENTS:

WHEREAS, The Principal above named has submitted to the City of Detroit, Michigan, a municipal corporation, hereinafter called the City, a proposal or bid, dated as shown above, on the above numbered contract.

NOW THEREFORE, We, the Principal and Surety, bind ourselves to the City in the amount of the bond stated above, that if the above proposal is accepted, the Principal will promptly enter into contract in accordance with the proposal, otherwise the Principal and/or Surety will pay the amount stated above unto the City of Detroit as liquidated damages.

SIGNED AND SEALED on the date indicated above.

In Presence of: Witness

Individual Principal

1. _____ as to _____ L.S.

2. _____ as to _____ L.S.

3. _____ as to _____ L.S.

4. _____ as to _____ L.S.

Attest	Corporate Principal	
	Business Address	
	By	Affix Corporate Seal
	Title	
Attest	Corporate Surety	
	Business Address	
	By	Affix

CERTIFICATE AS TO CORPORATE PRINCIPAL

I, _____, certify that
I am the _____ secretary
of the corporation named as principal in the within bond:
that _____ who signed the said bond
on behalf of the principal, was then _____
of said corporation; that I know his signature, and his signature thereto is genuine; and that said bond was duly signed, sealed,
and attested for and in behalf of said corporation by authority of its governing body.

(CORPORATE)
(SEAL)

Instructions

1. This form shall be used for construction work wherever a Bid Bond is required. There shall be no deviation from this form except as authorized by the Corporation Counsel of the City of Detroit.
2. The surety on the bond may be any corporation licensed by the State of Michigan to act as surety and satisfactory to the City of Detroit.
3. The name, including full christian name, and business or residence address of each individual party to the bond shall be inserted in the space provided therefor, and each party shall sign the bond with his usual signature on the line opposite the scroll seal.
4. If the principals are partners, their individual names shall appear in the space provided therefor, with the recital that they are partners composing a firm, naming it, and all the members of the firm shall execute the bonds as individuals.
5. If the principal as well as the surety is a corporation, the name of the state in which each is incorporated shall be inserted in the spaces provided therefor, and said instrument shall be executed and attested under corporate seal for each as indicated on the form.
6. The official character and authority of the person or persons executing the bond for the principal, if a corporation, shall be certified by the secretary or assistant secretary, according to the form herein provided. In lieu of such certificate, there may be attached to the bond copies of so much of the records of the corporation as will show the official character and authority of the officer signing, duly certified by the secretary or assistant secretary under the corporate seal, to be true copies.
7. The date of this bond must not be prior to the date of the instrument in connection with which it is given.

PERFORMANCE BOND (See Instructions on Reverse Side)		CONTRACT NO.
PRINCIPAL (Name, and legal status)		DATE OF CONTRACT
SURETY		DATE BOND EXECUTED
AMOUNT OF BOND (Express in words and figures)		

KNOW ALL MEN BY THESE PRESENTS, That we, the PRINCIPAL and SURETY above named, are held and firmly bound unto the City of Detroit, Michigan, a municipal corporation, hereinafter called the City, in the amount stated above, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the principal entered into a certain contract with the City, numbered and dated as shown above and hereto attached, and which shall be deemed a part hereof as fully as if set out herein.

AND WHEREAS, This bond is given in compliance with and subject to the provisions of Act No. 351 of the Public Acts of Michigan, for the year 1972, and the provisions of the City of Detroit Charter.

NOW, THEREFORE, if the principal shall well and truly perform and fulfill all the undertakings, covenants, terms conditions, and agreements of said contract during the original term of said contract and any extensions thereof that may be granted by the City, with or without notice to the surety, and during the life of any guaranty required under the contract, and shall also well and truly perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the surety being hereby waived, then, this obligation to be void; otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above-bounded parties have executed this instrument under their several seals on the date indicated above, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

PRINCIPAL: ☐ INDIVIDUAL ☐ DOING BUSINESS UNDER ASSUMED NAME ☐ PARTNERSHIP

NAMES OF
ALL
PARTNERS

BUSINESS
ADDRESS:

IN PRESENCE OF: WITNESS

PRINCIPAL — INDIVIDUAL/PARTNER — SIGNATURE

1. _____ AS TO _____ (L.S.)

2. _____ (5-74) AS TO _____ (L.S.)

CORPORATE PRINCIPAL

STATE IN WHICH INCORPORATED	BUSINESS ADDRESS:	
EXECUTE CORPORATE CERTIFICATE ON REVERSE SIDE	OFFICER'S SIGNATURE	AFFIX CORPORATE SEAL
	TITLE	

CORPORATE SURETY

STATE IN WHICH INCORPORATED	BUSINESS ADDRESS:	
ATTEST:	OFFICER'S SIGNATURE	AFFIX CORPORATE SEAL
	TITLE	

INSTRUCTIONS

1. This form shall be used wherever a performance bond is required under the provisions of Act No. 351 of the Public Acts of Michigan for the year 1972, and the provisions of the City of Detroit Charter. There shall be no deviation from this form except as authorized by the Corporation Counsel of the City of Detroit.

2. The surety on the bond may be any corporation licensed by the State of Michigan to act as surety and satisfactory to the City of Detroit.

The full business name of the corporate surety, business address, and the name of the state in which incorporated shall be inserted in the space provided therefor. The bond shall be executed and attested under corporate seal as indicated on the form.

3. The principal shall be identified by inserting in the space provided therefor the following information according to the principal's legal status, and the bond executed by the principal in accordance with the following requirements.

Individual. The name, including full christian name, business or residence address, with the recital that the principal is an individual. The bond shall be signed by the individual on the line opposite the scroll seal (L.S.), using the same form of signature as used in the Contract, and the signature duly witnessed.

Individual Doing Business Under an Assumed Name. The name of the individual, business or residence address, with the recital that the

principal is doing business under an assumed or trade name, naming it. The bond shall be signed by the individual on the line opposite the scroll seal (L.S.), using the same form of signature as used in the Contract, and the signature duly witnessed.

Partnership. The names of the individual partners, their business address, with the recital that such individuals are partners composing a firm, naming it. The bond shall be signed on the line opposite the scroll seal by the same partner who signed the Contract, using the same form of signature, and the signature duly witnessed.

Corporation. The full business name of the corporation, business address, with the recital that the principal is a corporation, and the name of the state in which incorporated. The bond shall be signed by an authorized officer of the corporation, followed by his title, and the corporate seal affixed.

The official character and authority of the person executing the bond for the corporation shall be certified by the secretary or assistant secretary, according to the Certificate provided below. In lieu of such certificate there may be attached to the bond copies of so much of the records of the corporation as will show the official character and authority of the officer signing, duly certified by the secretary or assistant secretary, under the corporate seal, to be true copies.

4. The date of this bond must not be prior to the date of instrument in connection with which it is given.

CERTIFICATE AS TO CORPORATE PRINCIPAL

I, _____, certify that I am the _____

of the corporation named as principal in the within bond; that _____

who signed the said bond on behalf of the principal, was then _____ of said corporation; that I know his signature, and his signature thereto is genuine; and that said bond was duly signed, and the corporate seal affixed for and in behalf of said corporation by authority of its governing body.

PAYMENT BOND (See Instructions on Reverse Side)		CONTRACT NO.
PRINCIPAL (Name, and legal status)		DATE OF CONTRACT
SURETY		DATE BOND EXECUTED
AMOUNT OF BOND (Express in words and figures)		

KNOW ALL MEN BY THESE PRESENTS, That we, the PRINCIPAL and SURETY above named, are held and firmly bound unto the City of Detroit, Michigan, a municipal corporation, hereinafter called the City, in the amount stated above, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the principal entered into a certain contract with the City, numbered and dated as shown above and hereto attached, and which shall be deemed a part hereof as fully as if set out herein.

AND WHEREAS, This bond is given in compliance with and subject to the provisions of Act No. 351 of the Public Acts of Michigan, for the year 1972.

NOW, THEREFORE, if the principal shall promptly make payment to all persons supplying labor and material in the prosecution of the work provided for in said contract, and any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the surety being hereby waived, then this obligation to be void; otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above-bounded parties have executed this instrument under their several seals on the date indicated above, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

PRINCIPAL: ☐ INDIVIDUAL ☐ DOING BUSINESS UNDER ASSUMED NAME ☐ PARTNERSHIP

NAMES OF
ALL
PARTNERS

BUSINESS
ADDRESS:

IN PRESENCE OF: WITNESS

PRINCIPAL — INDIVIDUAL/PARTNER — SIGNATURE

1. _____ AS TO _____ (L.S.)

2. _____ AS TO _____ (L.S.)

CORPORATE PRINCIPAL

STATE IN WHICH INCORPORATED	BUSINESS ADDRESS:	
EXECUTE CORPORATE CERTIFICATE ON REVERSE SIDE	OFFICER'S SIGNATURE	AFFIX CORPORATE SEAL
	TITLE	

CORPORATE SURETY

STATE IN WHICH INCORPORATED	BUSINESS ADDRESS:	
ATTEST:	OFFICER'S SIGNATURE	AFFIX CORPORATE SEAL

INSTRUCTIONS

1. This form, for the protection of the persons supplying labor and material, shall be used wherever required under the provisions of Act No. 351 of the Public Acts of Michigan, for the year 1972. There shall be no deviation from this form except as authorized by the Corporation Counsel of the City of Detroit.

2. The surety on the bond may be any corporation licensed by the State of Michigan to act as surety and satisfactory to the City of Detroit.

The full business name of the corporate surety, business address, and the name of the state in which incorporated shall be inserted in the space provided therefor. The bond shall be executed and attested under corporate seal as indicated on the form.

3. The principal shall be identified by inserting in the space provided therefor the following information according to the principal's legal status, and the bond executed by the principal in accordance with the following requirements.

Individual. The name, including full christian name, business or residence address, with the recital that the principal is an individual. The bond shall be signed by the individual on the line opposite the scroll seal (I.S.), using the same form of signature as used in the Contract, and the signature duly witnessed.

Individual Doing Business Under an Assumed Name. The name of the individual, business or residence address, with the recital that the

principal is doing business under an assumed or trade name, naming it. The bond shall be signed by the individual on the line opposite the scroll seal (I.S.), using the same form of signature as used in the Contract, and the signature duly witnessed.

Partnership. The names of the individual partners, their business address, with the recital that such individuals are partners composing a firm, naming it. The bond shall be signed on the line opposite the scroll seal by the same partner who signed the Contract, using the same form of signature, and the signature duly witnessed.

Corporation. The full business name of the corporation, business address, with the recital that the principal is a corporation, and the name of the state in which incorporated. The bond shall be signed by an authorized officer of the corporation, followed by his title, and the corporate seal affixed.

The official character and authority of the person executing the bond for the corporation shall be certified by the secretary or assistant secretary, according to the Certificate provided below. In lieu of such certificate there may be attached to the bond copies of so much of the records of the corporation as will show the official character and authority of the officer signing, duly certified by the secretary or assistant secretary, under the corporate seal, to be true copies.

4. The date of this bond must not be prior to the date of instrument in connection with which it is given.

CERTIFICATE AS TO CORPORATE PRINCIPAL

I, _____, certify that I am the _____

of the corporation named as principal in the within bond; that _____

who signed the said bond on behalf of the principal, was then _____ of said corporation; that I know his signature, and his signature thereto is genuine; and that said bond was duly signed, and the corporate seal affixed for and in behalf of said corporation by authority of its governing body.

AGREEMENT

A.1

CONTRACT TITLE	CONTRACT NUMBER
	NUMBER OF BULLETINS
PARTY OF THE FIRST PART (The City) City of Detroit, Michigan, a municipal corporation, acting through the	DATE OF AGREEMENT
PARTY OF THE SECOND PART (Contractor)	
CONTRACT PRICE	

Agreement made on the date as shown above, between the above named party of the first part, City of Detroit, hereinafter called the City, and the above named party of the second part, hereinafter called the Contractor.

Whereas, the City, by due advertisement, has invited proposals for doing the work hereinafter specified; and the Contractor has submitted a proposal which has been accepted, and the City Council has approved this Contract, the parties hereto do hereby, in consideration of the mutual covenants hereinafter contained, agree with each other as follows:

1. THE CONTRACT

The Contract Documents are composed of the individual parts as named by title in Article 2 of the Standard Instructions to Bidders, including the number of Bulletins above indicated issued by the City prior to the receipt of bids, and together form the Contract and are as fully a part of the Contract as if fully herein repeated. In case any question arises as to the identity of the Contract Documents or any individual parts thereof, the City Engineer shall identify them.

2. WORK INCLUDED

The work included consists of that contained and described in the Proposal for the Contract above named by title and number.

3. TIME PROVISIONS

The Contractor shall begin work under this Contract at the time stipulated in the written notice of the City Engineer, acting for the City, issued in accordance with the

provisions of the Article, "Time of Starting and Completing Work", in the Special Notice to Bidders. Time being of the essence of this Contract, the Contractor shall thereafter prosecute the work diligently so as to assure the completion of the entire work not later than the time prescribed therefor, or the date to which the time of completion may have been extended pursuant to the provisions of the Article, "Delays and Extension of Time", of the General Conditions. The Contractor shall, if necessary to complete the work within such time, work nights, Sundays, and holidays without any change in the Contract price.

4. LIQUIDATED DAMAGES

The Contractor guarantees that he can and will complete the work within the time limit stated in the Contract Documents, or within the time as extended as provided elsewhere in the Contract Documents. Inasmuch as the damage and loss to the City which will result from the failure of the Contractor to complete the work within the stipulated time, will be most difficult or impossible of accurate determination, it is mutually agreed that the damages to the City for such delay and failure on the part of the Contractor shall be liquidated in the amount stated in the Article, "Liquidated Damages", in the Special Notice to Bidders, for each and every calendar day by which the Contractor shall fail to complete the work or any part thereof within the provisions hereof, and such liquidated damages shall not be considered as a penalty.

The City will deduct and retain out of any money due or to become due hereunder the amount of the liquidated damages, and in case those amounts are less than the amount of liquidated damages the Contractor shall pay the difference upon demand of the City.

5. THE CONTRACT PRICE

For the Contractor's complete performance of the work under the Contract, the City will pay, and the Contractor agrees to accept, in full compensation therefor, the Contract price above stated, subject to the terms and conditions thereof. Nothing herein contained shall be construed, or be permitted to operate, as any restriction upon the power granted to the Common Council by the City Charter to audit and allow all accounts chargeable against the City.

A. *Lump Sum Price Contract*: Where the accepted Proposal was on a lump sum price basis, the Contract price above stated is subject to adjustments, if any, due to the additional cost or credits for work ordered by the City to be added or omitted in accordance with Article 19, "Changes or Modification of Contract", of the General Conditions.

B. *Unit Price Contract*: Where the accepted Proposal was on a unit price basis, the Contract price above stated is subject to such additions and deductions as may be necessary to conform to the actual quantities of the several items or classes of work performed at the unit prices stated in the accepted Proposal, and, also, is subject to adjustments, if any, due to the additional cost or credits for work ordered by the City to be added or omitted in accordance with Article 19, "Changes or Modification of Contract", of the General Conditions.

6. DETAILED ESTIMATE

When required by the Special Notice to Bidders, the Contractor shall within 14 days after the execution of this Contract, submit a Detailed Estimate to the City Engineer for his approval on forms provided by the City Engineer, giving a breakdown of his price bid, or of lump sum bid for items of the Contract, showing for each major operation to be performed under the Contract, the individual items of work, with units, quantities, unit prices, and total cost. The sum of the total cost of the individual items shall be equal to the total Contract price.

The Detailed Estimate, when approved by the City Engineer, shall be considered and become a part of the Contract. The approved Detailed Estimate may be used by the Engineer as a basis for preparing his estimates for progress payments and to provide unit prices for which extra work may be done and for which work ordered omitted may be deducted. No progress payments will be made until the Detailed Estimate has been approved by the City Engineer.

7. PROGRESS PAYMENTS

When the Special Notice to Bidders so provides, in order to assist the Contractor to prosecute the work advantageously, the City will make progress payments to the Contractor.

The Engineer will from time to time as the work progresses, but usually not more often than once a month, prepare and certify an estimate that, in his judgment, represents the quantity and fair value of the work done by the Contractor, including such extra work performed as was ordered in writing by the City.

When the Detailed Estimate is required, the Engineer may use the prices contained in such Detailed Estimate. In

case any of the said prices do not, in the judgment of the Engineer, truly represent the actual relative costs of the different parts of the work performed, the Engineer may prepare a new schedule of prices for use in preparing the estimate.

When the Special Notice to Bidders so provides, the Engineer may also include in the estimate the value of non-perishable materials, fixtures, and equipment which, in the judgment of the Engineer, are suitably stored on the site on the last day of the estimate period. The value of such items shall not exceed the actual net cost to the Contractor as substantiated by invoices or other factual information deemed satisfactory by the Engineer.

After approval of the Engineer's certified estimate by the City Officer, above named as acting for the City, a copy of the Engineer's estimate will be furnished the Contractor and the City will make payment to the Contractor as follows:

Unless otherwise provided in the Special Notice to Bidders, the City will retain from each progress payment, 10 percent of the total amount earned as stated in the Engineer's estimate until the total amount so retained shall equal 5 percent of the Contract price above stated. The City will then pay to the Contractor the amount so computed, less the aggregate of any and all amounts previously paid the Contractor, except that the City may further retain from any progress payment any deductions authorized to be made by the City under the terms of this Contract or by law.

The Engineer may withhold the preparation of a progress estimate whenever, in his judgment, the lack of proper progress by the Contractor so warrants. It is mutually understood by, and agreed between the parties hereto, that no progress payment by the City in itself shall be construed as evidence of satisfactory progress by the Contractor, or as evidence of performance of this Contract either in whole or in part, or construed to be an acceptance by the City of defective work or improper materials.

8. ACCEPTANCE AND FINAL PAYMENT

A. *Contractor's Notification of Completion*: When the Contractor considers all work required of him in the performance of this Contract, including any and all changes in the work ordered in writing by the City, to be complete and ready for final inspection, he shall so notify the Engineer in writing.

B. *Contractor's Affidavits and Guarantees*: The Contractor shall file with the Engineer as a condition precedent to final payment, the following:

- a) An affidavit, on forms provided by the Engineer, that all payrolls, material bills, and all other indebtedness incurred by him in connection with the work have been paid;
- b) A release from the surety company on the Labor and Material Bond, in event that any claims have been previously filed pursuant to such bond, consenting to the final payment notwithstanding such filed claims;
- c) Written guarantees and/or warranty bonds, or certificates of inspection as may be specifically required under the terms of the Contract.

C. *Verified Statement of Claims:* The Contractor must also submit a final verified statement of any and all alleged unliquidated claims against the City in any way connected with or arising out of this Contract, including those as to which details may have been furnished pursuant to Articles 21 and 22 of the General Conditions, setting forth with respect to each such claim the total amount thereof, the various items of labor and materials included therein, and the alleged value of each such item; and if the alleged unliquidated claim be one of delay, the alleged cause of each such delay, the period or periods of time, giving the dates when the Contractor claims the performance of the work, or a particular part thereof, was delayed, and an itemized statement and breakdown of the amount claimed for each such delay. With reference to each such claim, the City shall have the same right to inspect, and make extracts or copies of, the Contractor's books, vouchers, records, etc., as is referred to in said Articles 21 and 22. Nothing contained in this Article is intended to or shall relieve the Contractor from the obligation of giving timely notice of claims pursuant to said Articles 21 and 22. The Contractor is warned that unless such claims are completely set forth as herein required, the Contractor upon acceptance of the final payment, pursuant to "F" herein, will have waived any such claims.

D. *Engineer's Inspection and Final Estimate:* Upon receipt of the Contractor's written notification, the Engineer will promptly thereafter make such inspection.

If the Engineer finds the entire work not fully completed or portions not acceptable under the terms of the Contract, he will so notify the Contractor in writing, itemizing what work is uncompleted and/or unacceptable. The Contractor shall then promptly complete and/or correct the work so itemized, and again notify the Engineer as required in "A" above.

When the Engineer finds the entire work fully completed and acceptable under the terms of the Contract and the Contract fully performed, he will prepare and certify a final estimate as to the whole amount of the work done by the Contractor and the value thereof under and according to the terms of the Contract, and will determine the unpaid balance due hereunder other than the amount of alleged unliquidated claims. Any and all prior progress estimates prepared by the Engineer under the provisions of Article 7 herein, upon which progress payments were made, being merely estimates made to determine the amount of progress payments to enable the Contractor to prosecute the work more advantageously, shall be subject to correction in the certified final estimate.

E. *Approval of Final Payment:* Upon approval of the Engineer's certified final estimate by the City Officer, a copy of the approved final estimate will be furnished the Contractor. The City Officer will certify to the Common Council that all work required of the Contractor in the

performance of the Contract has been completed and accepted by said City Officer under the terms and conditions thereof, and the total value of such work.

After audit and allowance by the Common Council, the total amount of the value of the work done will be paid to the Contractor by the City, less the total amounts previously paid on any or all progress payments when such were allowed and paid, less any deductions authorized to be made by the City under the terms of the Contract or by law. Such final payment shall be final and conclusive upon the Contractor.

F. *Acceptance of Final Payment:* The acceptance by the Contractor, or by anyone claiming by or through him, of the final payment, based on the Engineer's final estimate and the amount allowed by the Common Council, whether such payment be made pursuant to any judgment of any court, or otherwise, shall constitute and operate as a release to the City from any and all claims of and liability to the Contractor for anything theretofore done or furnished for or relating to or arising out of this Contract, and for any prior act, neglect, or default on the part of the City or any of its officers, employees, or agents, excepting only a claim against the City for amounts deducted or retained in accordance with the terms and provisions of this Contract or by law, and excepting a claim, not otherwise waived, which is contained in the verified statement filed by the Contractor pursuant to "C" above.

The Contractor is warned that his acceptance of the final payment with any reservation either orally or in writing, purporting to reserve claims other than those herein specifically excepted from the operation of this Article, or those deducted by the City from the final estimate as certified to by the Engineer, shall not be effective to reserve such claims, anything stated to the Contractor orally or in writing by any officer, employee, or agent of the City to the contrary notwithstanding.

Should the Contractor refuse to accept the final payment as tendered by the City, it shall constitute a waiver of any right to interest thereon.

G. *Substantial Completion Payment:* When the work, in the judgment of the Engineer, has been substantially but not entirely completed, and full completion thereof is materially delayed through no fault of the Contractor, and the Engineer so certifies, the City may, upon certificate of such substantial completion made by the City Officer, make payment to the Contractor of any part or all of the balance due under the Contract, including amounts retained from any previous progress payments, less the value of work still to be done, as the Engineer shall judge to be fair and equitable, for that portion of the work certified as substantially complete and accepted, and less any deductions authorized to be made by the City under the terms of the Contract or by law. Such payment shall be made under the terms and conditions governing final payment.

IN WITNESS WHEREOF, the City and the Contractor, by and through their duly authorized officers and representatives, have executed this Contract as of the date first above written.

ATTEST:

Contractor

BY _____

ITS _____

ATTEST:

CITY OF DETROIT

BY _____

ITS _____

LAW DEPARTMENT

Approved as to form and execution subject to approval by Purchasing Director and City Council

Corporation Counsel

FINANCE DEPARTMENT:

NO. _____ Date _____

I hereby certify that an appropriation has been made to cover the expense to be incurred under this Contract.

Chief Accounting Officer

**PURCHASING DEPARTMENT
FOR THE CITY OF DETROIT**

PURCHASING DIRECTOR

THIS CONTRACT SHALL NOT HAVE ANY FORCE OR EFFECT UNTIL APPROVED BY
RESOLUTION OF THE CITY COUNCIL AND SIGNED BY THE PURCHASING DIRECTOR.

PART II: GENERAL REQUIREMENTS AND TECHNICAL SPECIFICATIONS

DIVISION ONE: GENERAL REQUIREMENTS

**SECTION 01010
SUMMARY OF WORK**

PART 1: GENERAL

1.1 WORK COVERED BY CONTRACT DOCUMENTS

- A. The work to be done under this contract consists of providing all labor, material, equipment, tools and full-time supervision for and incidental to the seawall work for Mt. Elliott Park, Detroit, Michigan. The work includes but is not limited to the following items:

1. Site Work and River's Edge:

Earthwork, concrete rubble cleanup, site drainage piping, site drainage adjustment, placement of blank PVC conduit for future utilities, driving steel pilings, structural steel erection, poured in place reinforced structural concrete, exposed aggregate concrete flatwork, concrete encasement of structural steel, galvanized steel handrailing, painting of primed steel structure and galvanized handrail, and hydroseeding for the construction of approximately 600 lf of seawall and concrete rip-rap Detroit River Edge improvements.

1.2 CONTRACT DOCUMENTS

- A. The work described by the Contract Documents is explained in three parts:

PART 1: CONTRACT FORMS
PART 2: TECHNICAL SPECIFICATIONS
PART 3: DRAWINGS

- B. Part 1: Contains the required Bid Proposal Forms to be used in the submission of cost for the project. It also includes other information relative to the preparation and submission of a bid, bonding and general conditions.
- C. Part 2: Specifications - 2 Divisions

DIVISION ONE: GENERAL REQUIREMENTS

1. The General Requirements cover matters generally applicable to more than one phase of the work and shall supersede any inconsistent provisions contained in the General Specifications.

DIVISION TWO: TECHNICAL SPECIFICATIONS

1. The technical specifications are sub-divided into sections corresponding to a particular aspect of the Work. It is not the intent nor shall it be so construed that work included in any one Section be performed by a particular trade or subcontract. Likewise, the work to be performed by a particular trade is not necessarily restricted to that of any one Section. Any item mentioned under any heading must be supplied though it is not called for again under the heading for that respective work.
 2. Specific requirements stated in the various sections as though applicable to a single item or one unit of work shall also apply to all additional items or units or work required by the Contract Documents, and shall not be interpreted as designating that only a single item or unit is required.
 3. Where reference is made in the Technical Specifications to publications, such as specifications or standards of a technical society, trade association or governmental agencies, it is understood and agreed that such publications are a part of the Technical Specifications, to the extent indicated by the specific references there to, though not contained within these documents. The abbreviations used in the technical specifications, for these publications, are contained in part of this Section 01010, Summary of Work.
 4. A copy of each referenced publication is on file in the Architect's office and is available for inspection by the Contractor. However, it is assumed that a contractor, experienced in the type of work involved, will have his own source of access to the referenced publications.
 5. The contract shall comply with all rules, regulations, orders, etc., of any governmental agencies applicable to the work under this contract. The Contractor shall cooperate with the Owner in promptly furnishing any information required by such agencies. It shall be an obligation of the Contractor to keep himself informed of governmental rules, regulations, orders, etc., which are applicable to his work. The Contractor he may enter into.
- D. Part 3: Drawings under a separate cover titled "Mt Elliott Park Seawall Phase I"

1.3 CONTRACT

- A. Contract Award, if made is for a bid category(s) in accordance with the plans and specifications. Award will be based upon the most qualified bid, proposed in the best interest of the Owner.

1.4 WORK BY OTHERS

- A. The following items are not included in this Contract:

Items marked "by others", "N.I.C." "Void", in the Specifications or on the Drawings.

1.5 FUTURE WORK

- A. The Contractor should understand that "Phase Two" construction of Mt. Elliott Park is anticipated to follow the "Phase One" work described within these Specifications. Consequently, the "Phase One" Contractors shall fully cooperate with all future Contractors to properly coordinate the construction of all phases of work. All work schedules shall be discussed with the Architect and Owner. These schedules shall account for this necessary coordination and all completion dates maintained.

1.6 WORK SEQUENCE

- A. The Contractor shall have constructed all work in this contract, to the satisfaction of the Owner and Architect, by November 29, 1991.

1.7 CONTRACTOR'S AND SUBCONTRACTOR'S USE OF PREMISES

- A. The Contractor shall not be permitted to store any vehicles, equipment or materials on adjacent properties.
- B. The Contractor shall not be permitted to occupy or utilize the facilities of adjacent buildings.

1.8 PARTIAL OWNER OCCUPANCY

- A. The Owner's authorized Representative shall be permitted to occupy the entire site throughout the course of construction, except those areas which are determined unsafe by Owner, Architect and Contractor.

1.9 FIELD ENGINEERING

- A. The Contractor shall verify at his/her cost, utilizing the services of a registered surveyor, all existing conditions in the field and report any discrepancies between the Drawings and field conditions to the Architect prior to beginning any work.

1.10 COORDINATION

- A. The Contractor shall insure that himself, subcontractors and trades are carefully coordinated to insure that Part 1.6, Work Sequence is properly executed by the mandatory deadline.
- B. The Contractor shall cooperate fully with the Architect, Owner, employees of either and other contractors executing work within this project area for prior work phases.

1.11 HOURS OF WORK

- A. The Contractor shall execute the work during the normal daylight hours of any week day, providing that he so conducts his operations as not to create a public nuisance or disturb the peace. However, should the Contractor be stopped by order of public authority from working at such times that are contrary to or in violation of any law, ordinance, permit or license, that Contractor shall be entitled to an extension of time due to such stoppage.
- B. At the beginning of the work, the Contractor shall notify the Architect in writing the days and hours thereof which shall be considered a normal work week or normal daily work hours, he shall notify the Architect at least 24 hours in advance of the contemplated change and make arrangements to have required inspectors assigned to the work.
- C. In an emergency, requiring work to be performed outside the normal working hours of the normal work week schedule to save or protect life or property, the requirements of the 24 hour notification will be waived. The Contractor determines that an emergency exists necessitating the change in or extension of the normal hours of work. However, the Contractor's determination of the existence of the emergency is subject to review and discretion of the Architect and Owner.
- D. The normal work week schedule and/or daily hours of work shall be altered at such times as directed by the Architect when, in his judgement such alteration is necessary to maintain the required progress of the work.

1.12 MATERIALS AND EQUIPMENT

- A. The Contractor shall bring to the site the proper materials, equipment and tools of adequate capacity to execute the work properly and within the scheduled period of time. All equipment and materials shall be to the approval of the Architect. Any equipment or methods unacceptable to the Architect, shall be changed until acceptable at no additional cost the Owner. All materials shall be stored offsite and the Contractor shall be responsible for storage, climatic protection, vandalism, safe transportation and handling in accordance with industry standards.
- B. Should any Contractor desire after the Award of the Contract to substitute another material or item of equipment for one or more specified by name, he shall make a request for such substitution in writing, stating the benefit to the Owner, the credit or extra involved and shall provide all required supporting data and samples.
- C. If a substitution requires changes in the work of other trades or Contractors, redesign, or other substantial changes in the Contract Documents, the Contractor proposing the substitution shall pay any additional costs thereby incurred. The Architect and Owner must approve all substituted material in writing.
- D. After Award of the Contract, no substitutions of any material listed in the Contract Document or Proposal will be permitted if the request is based on delivery dates, test requirements, or other causes, unless the Bidder proves that the original material was ordered or scheduled for tests within 30 days after the Contract was let and due to unforeseen circumstances cannot be delivered at the promised time or tested in accordance with the specifications without materially delaying work.
- E. The Contract is based on the standards of equality established in the Contract Documents. All products proposed for use shall require approval of the Architect before being incorporated into the work. Do not substitute materials, equipment or methods unless such substitutions have been specifically approved.
- F. Where the phrase "or equal" or "equal as approved by the Architect" occurs in the Contract Documents, do not assume that materials, equipment or methods will be approved as equal unless the item has been specifically approved for the work by the Architect in writing.
- G. Contractor shall within 2 weeks after receiving a "notice to proceed" supply Architect with a complete list of all material, manufacturers and suppliers to the Architect for his approval. All substitutions requested shall be identified upon this list.

1.13 SOIL EROSION AND SEDIMENTATION CONTROL

- A. The Contractor shall execute all construction work carefully to prevent soil erosion and control soil sedimentation. The Contractor shall follow all State and Local requirements. Specifically, the requirements of the State of Michigan's Soil Erosion and Sedimentation Control Law of 1972, Implementing Act 347, as amended, and those measures contained within these Specifications. The Architect and soil erosion control agent may require additional preventative measures. The City of Detroit Recreation Department shall act as the soil erosion and sedimentation control agent. The Contractor shall, at his cost, secure a permit from control agent. (Although there is no fee for permit).

1.14 PERMITS

- A. The Contractor is responsible and shall obtain and pay any associated cost for securing all required permits for the work, and any applicable inspection costs by all necessary municipal inspectors.

1.15 APPLICABLE STANDARDS

- A. Where materials or workmanship are required by these Contract Documents to meet or exceed the specifically named code or standard, it is the Contractor's responsibility to provide materials and workmanship which meet or exceed the specifically named code or standard.
- B. It is also the Contractor's responsibility, when so required by the Contract Documents or by written request from the Architect, to deliver to the Architect all required proof that the materials or workmanship, or both meet or exceed the requirements of the specifically named code or standards. Such proof shall be in the form requested in writing by the Architect and generally will be required to be copies of a certified report of tests conducted by a testing agency approved for the purpose by the Architect.
- C. Familiarity with pertinent codes and standards: In procuring all items used in this Work, it is the Contractor's responsibility to verify that the items procured for use in this Work meet or exceed the specified requirements.
- D. Rejection of non-complying items: The Architect reserves the right to reject items incorporated into the Work which fail to meet the specified minimum requirements. The Architect further reserves the right and without prejudice to other recourse the Architect may take, to accept non-complying items subject to an adjustment in the Contract Amount as approved by the Architect and the Owner.

- E. Applicable Standards: Throughout the Contract Documents, reference is made to codes and standards which establish qualities and types of workmanship and materials and which establish methods for testing and reporting on the pertinent characteristics. Where materials or workmanship are required by these Contract Documents to meet or exceed the specifically named code or standard, it is the Contractor's responsibility to provide materials and workmanship which meet or exceed the specifically named code or standard.

Applicable standards listed in these Specifications include, but are not necessarily limited to, standards promulgated by the following agencies and organizations:

AIA	American Institute of Architects
ACI	American Concrete Institute
ASTM	American Society of Testing Materials
CSI	Construction Specifications Institute
COE	Corps of Engineers
DWSD	Detroit Water and Sewerage Department
FS	Federal Specifications
MDOT	Michigan Department of Transportation
NEC	National Electric Code
NEMA	National Electric Manufacturers Association
NFPA	National Fire Protection Association
UL	Underwriter's Laboratory
OSHA	Occupational Safety and Health Act
PCI	Precast Concrete Institute

1.16 DEFINITIONS

In interpreting these specifications or any referenced publication, terms such as "Purchaser" or Owner shall be understood and mean the Detroit Recreation Department; the "Manufacturer" or "Supplier", shall mean the Contractor; The "Contractor" is a person or identity identified in the agreement between the Owner and the Contractor that is contracted by the Owner to complete certain portions of the work required for completion of the project. The terms "Inspector" and "Engineer" shall mean the City Engineer of Detroit, and terms such as "Landscape Architect", or "Architect" shall mean Schervish Vogel Merz, P.C.

* END OF SUMMARY OF WORK *

**SECTION 01100
ALTERNATES**

PART 1: GENERAL

1.1 DESCRIPTION

- A. Work included: To enable the Owner to compare total costs where alternate materials and methods might be used. Alternates are described on the Drawings and in this Section of the Specifications.

1.2 RELATED WORK DESCRIBED ELSEWHERE

- A. Materials and methods to be used in the Base Bid and in the Alternates have been described on the Drawings and in pertinent Sections of these Specifications.
- B. Method for stating the proposed Contract Sum and Alternates is described in the Bid Form.

1.3 SUBMITTAL

- A. All Alternatives described in this Section are required to be reflected to the Bid Form as submitted by Bidders. However, do not submit alternatives other than as described in this Section, except as provided for "substitutions" under the General Conditions.

1.4 PRODUCT HANDLING

- A. If the Owner elects to proceed on the basis of one or more of the described alternatives, make all modifications to the work required in furnishing and installing the selected alternative or alternative to the approval of the Architect and at no additional cost to the Owner other than proposed on the Bid Form.
- B. The Owner reserves all rights to accept or reject any or all Alternate Proposals and in any combination.
- C. Alternate Proposal Bids submitted shall include price differential from all trades involved in both Base Bid and Alternate Bid construction.
- D. Alternate Proposals schedule, are part of the Bidding Documents and will be considered in awarding of the contracts.

- E. Refer to applicable specification sections and to applicable drawings for specific requirements of the work, regardless of whether references are so noted in description of each Alternate Proposal.
- F. Coordinate pertinent related work and modify surrounding work as required to properly integrate the work under each Alternate Proposal, and to provide the complete construction required by Contract Documents.

PART 2: PRODUCTS

The Owner reserves the right to accept any part of the following alternates as a separate addition to the scope and cost of work.

2.1 ALTERNATE NO. 1

Part A

Add concrete/steel spandrel edge along existing outflow not including handrail as shown on Sheet L5 and Detail 10 on Sheet S2. Add all concrete work on outflow and adjust existing catch basin. Base bid price shall reflect no work in this area.

Part B

Add 3 square and 38 round concrete bollards as shown on Sheet L5, L6 and Detail 7, Sheet L7. Base bid price shall not include bollards.

Part C

Add all 6" thick walkways as shown on Sheet L5, L6 and Detail 1 on Sheet L7. Base bid shall include installation of slag walkway and concrete flatwork on steel framework.

2.2 ALTERNATE NO. 2

Add all work in the above alternate number one, including all parts.

2.3 ALTERNATE NO. 3

Part A

Add 312 lf round handrail (4" nominal diameter) and painting as shown on Sheet L5, L6 and Details 3 on Sheet L7. Base bid to include all sleeves per Detail 3 on Sheet L7, cover holes with weatherproof tape. Base bid price shall include 3" nominal diameter handrails (round).

Part B

Place 116 lf square handrail (4"x4" nominal size) (Detail 4, Sheet L7) in place of 116 lf of 312 lf total round handrails in alternate number 3, square handrails shall be located at the west end of the park on the outflow to connection of the curvilinear walkway. Remaining \pm 195 handrails shall be round (3-1/2" nominal diameter). Base bid to include all sleeves per Detail 3 on Sheet L7; cover holes with weatherproof tape. Base bid price shall include 3" nominal diameter handrails (round).

2.4 ALTERNATE NO. 4

The Contractor, if he so desires, shall submit with his bid a written description of an alternate method of installing the driven pilings. The intent of offering this alternate is to reduce construction cost. The contractors proposed alternative system must be capable of accommodating equal or greater design loads than those specified in the contract documents.

Proposed alternates may consider such construction methods as predrilling through the concrete rubble and then installing a lighter pile.

This proposed driven pile alternate together with all other construction costs must be reviewed and approved by the client, architect and engineer. The Contractor shall not assume that their proposed alternate is acceptable until this approval occurs and they are the Contractor selected to execute the work.

The contract shall enter the amount to be deducted from his base bid, if his proposed alternate is approved, on the bid form to be submitted with his bid. **THE CONTRACT MUST NOT INCLUDE THIS COST SAVINGS IN HIS BASE BID AMOUNT.**

*** END OF ALTERNATES ***

**SECTION 01200
PROJECT MEETINGS**

PART 1: GENERAL:

1.1 DESCRIPTION:

- A. In general the work under this Section includes the following items:
 - 1. Preconstruction Meeting.
 - 2. Project Meetings.
 - 3. Job Site Administration.

1.2 RELATED WORK SPECIFIED ELSEWHERE:

- A. The Contractor's relations with his Subcontractors and suppliers are the Contractor's responsibility and are not part of this Section 01200.

1.3 QUALITY ASSURANCE:

- A. Person designated by the contractor to attend and participate in the project meetings shall have all required authority to commit the Contractor to solutions agreed upon in the project meetings.

1.4 SUBMITTALS:

- A. Minutes: The contractor will compile minutes of each project meeting as required and distribute copies to all parties involved.

PART 2: PRODUCTS:

2.1 AGENDA AND MINUTES:

- A. The Contractor will produce typed agendas and meeting minutes on 8 1/2" X 11" size paper. Agendas shall be distributed by the Contractor to Architect, Owner, Subcontractors and all in meeting attendance within 5 days of the meeting date.

PART 3: EXECUTION:

3.1 PRECONSTRUCTION MEETING:

- A. Prior to issuing a "Notice To Proceed" a preconstruction meeting will be

held. The Contractor and all major Subcontractors shall attend and be prepared to discuss the following minimum agenda:

1. Organizational arrangement of Contractor's forces and personnel and those of Subcontractors, material supplies and Architect.
2. Channels and procedures for communications.
3. Construction schedule including sequence of critical work.
4. Contract Documents including distribution of required copies of original Documents and revisions.
5. Processing of Shop Drawings and other data submitted to the Architect for review.
6. Process of field decisions and Change Orders.
7. Rules and regulations governing performance of the work.
8. Procedures for safety, first aid, security, quality control, housekeeping and other related matters.
9. Application for payment, payment forms and processing.

3.1 PROJECT MEETINGS:

- A. Project meetings will be held weekly, on site in the job trailer (unless otherwise directed by the Architect or Owner) at least once a week. The Contractor shall coordinate a mutually acceptable time between the Owner, Architect and himself for each weekly project meeting.
- B. To the maximum extent practicable, the same person or persons shall represent the Contractor at project meetings throughout progress of the work. Subcontractors, materials suppliers and others shall attend those project meetings in which their aspects of the work are involved. The Contractor and all others attending shall be prepared to discuss the following minimum agenda:
 1. Review, revise as necessary and approve minutes of previous meeting.
 2. Review progress of the work since last meeting, including status of submittals for approval.

SVM-8801
Mt. Elliott Park

01200-3

3. Identify problems which impede planned progress.
4. Corrective measures and procedures to regain planned schedule.
5. Review applications for payment.
6. Complete other current business.

3.2 JOB SITE ADMINISTRATION:

- A. Each Contractor shall employ the same individual as a contact person for the entire length of their contract.

*** END OF PROJECT MEETINGS ***

**SECTION 01300
SUBMITTALS**

PART 1: GENERAL

1.1 DESCRIPTION:

- A. In general, the work under this Section includes, but is not limited to the submission of the following:
 - 1. Samples and manufacturer's material information.
 - 2. Construction schedule.
 - 3. Testing results of field work or conditions as required in each Section.
- B. Whenever possible throughout the Contract Documents, the minimum acceptable quality of workmanship and materials has been defined by the manufacturer's name and catalog number, reference to industry or governmental standards, or description of required attributes and performance.
- C. To ensure that the specified products are furnished and installed in accordance with the design intent, the Contractor shall submit the various product samples, catalog cuts, descriptive literature and required drawings as called for in this article, the specification sections and on the Drawings.
- D. The Contractor shall make all required submittals, revise and resubmit as necessary to establish compliance with these specifications. Enough copies shall be submitted to allow the Architect and Owner to retain a minimum of four copies of each submittal indicating the specification section, submittal number, subcontractor or supplier name and a brief description. Submittals shall be made to the office of the Architect.

1.2 QUALITY ASSURANCE:

A. Certificates:

When stipulated in the Technical Specifications or required by the Architect a certificate shall be submitted to the Architect in triplicate, attesting that the materials, equipment or accessory submitted complies with the contract requirements. The certificate shall include the following information:

- 1. Name and brand of the product, name of the manufacturer, location of the plant.

2. If the statement originates with the producer, the Contractor shall endorse all claims and submit the statement in his own name. The Contractor shall also guarantee that all materials furnished for use under the contract will be in compliance with the samples and certificates.
3. An outline giving the chemical and physical properties of the material represented by the sample submitted and giving the name of the testing laboratory which made the test, and the dates of the test. This information may be omitted in the case of materials required to conform to Federal Specifications of ASTM Standards, provided a certified statement by an acceptable testing laboratory is furnished in lieu thereof.

B. Tests:

Tests will be made by such methods and in such numbers as the City Engineering Inspector shall determine to be adequate and equitable. Whenever materials are required to conform to Federal Specifications or ASTM Standards, and such specifications are accepted as establishing the technical qualities and testing methods, they shall not necessarily govern the number of tests required to be made. The Architect may require laboratory tests on samples submitted or may approve materials on the basis of data submitted in certificates with the samples.

If the tests of the samples submitted indicate that the proposed material will not conform to the contract requirements, the Architect will notify the Contractor that the proposed material is unaccepted and rejected. Contractor shall be responsible to pay all cost associated with a submittal which he has represented as conforming to the Specifications; only if the submittal tested fails.

C. Field Check Test:

After actual deliveries of materials to the site, the City Engineering Inspector will make such check tests as they deem necessary to ensure compliance with the materials delivered or used with the contract requirements. The Engineer or Architect may reject such materials for cause even though such materials have previously been given general approval. If materials which fail to meet field check tests have been incorporated in the work, the City Engineering Inspector and/or Architect shall have the authority to require their removal and replacement with proper materials conforming to the contract requirements.

1.3 RELATED WORK DESCRIBED ELSEWHERE:

- A. Individual requirements for submittals are described in pertinent other Sections of these Specifications.

1.4 CERTIFICATES OF COMPLIANCE:

Architect's Approval:

Approval by the Architect shall be general only and shall not constitute a waiver of the Architect's right to demand full compliance with the contract requirements. When a material has been approved, no change in brand or make will be permitted unless:

1. The manufacturer cannot make satisfactory delivery; or
2. The material as delivered fails to comply with the contract requirements.

PART 2: PRODUCTS

2.1 SUBMITTAL SCHEDULE:

- A. A Submittal Schedule in the form of a material status report shall be submitted to the Architect within three (3) weeks, twenty-one (21) days of contract award indicating submittal date(s) and expected fabrication and delivery dates to job site. The material status report shall be kept current and updated every two (2) weeks during the early stages of the contract submittal period, then as required thereafter.

- B. **Samples and Manufacturer's Material Information:**

Submit all samples and information for all materials required for installation per these specifications other than those materials furnished by Owner; procedure of each submittal will be approved by the Architect.

- C. **Construction Schedule:**

Within ten days of Contract Award and prior to the preconstruction meeting, the Contractor shall submit a preliminary construction Progress Schedule. Upon review by the Architect and Owner the Contractor shall make any revisions deemed necessary and resubmit it to the Architect for final approval.

The construction schedule shall reflect the following requirements:

1. The anticipated date of commencement and completion of the various operations to be performed under the Contract, including submission of shop drawings and other information requiring approval by the Architect which significantly affects the construction schedule.
2. The sequence and inter-relationship of all work and, when applicable, with those of other related contract, and;
3. The estimated time required for fabrication and/or delivery of materials and equipment required for the work.

2.2 CONSTRUCTION SCHEDULE:

- A. The construction schedule shall reflect the requirements of Section 01010 Summary of Work, Part 1.11, Hours of Work.
- B. The Schedule, once accepted as satisfactory by all parties concerned, shall be strictly adhered to by the Contractor, unless:
 1. The time allowed for completion is extended by the Owner.
 2. Extra work was ordered by the Owner, which is not included in the original Scope of Work.
 3. In the judgement of Owner, the work to be performed will not be started or completed per the accepted schedule.

PART 3: EXECUTION

- A. All submittals shall be schedule to allow at least ten (10) working days for the Review Process by the Architect and Owner.
- B. Review by the Architect shall not be construed as a complete check, but only that the general method of construction and detailing is satisfactory. Review shall not relieve the Contractor from responsibility for errors which may exist.
- C. Authority to Proceed:

Only the notations on the Architect's Shop Drawings stamped "Approved"

SVM-8801
Mt. Elliott Park

01300-5

indicated by Architect. If the submittal is noted as "Resubmit with Corrections" the Contractor shall resubmit the submittal with the necessary corrections for review. If submittal is noted as "Disapproved" the Contractor shall resubmit.

*** END OF SUBMITTALS ***

**SECTION 01500
TEMPORARY FACILITIES AND TEMPORARY CONTROLS**

PART 1: GENERAL

1.1 DESCRIPTION:

- A. In general, the work under this Section includes the following items:
 - 1. Temporary utilities such as heat, water, electricity, telephone and facsimile machine.
 - 2. Field offices and sheds.
 - 3. Sanitary facilities.
 - 4. Construction aids.
 - 5. Fencing of the construction area.
 - 6. Haul roads.
 - 7. Soil Erosion Control Devices.

1.2 RELATED WORK DESCRIBED ELSEWHERE:

- A. Except that all equipment furnished by subcontractors shall comply with all requirements of pertinent safety regulations, the ladders, planks, hoists and similar items normally furnished by the individual trades in execution of their own portions of the work are not part of this Section.
- B. Permanent installation and hook-up of the various utility lines are described in the pertinent other Sections of these specifications.

1.3 PRODUCT HANDLING:

- A. Use all means necessary to maintain temporary facilities and controls in proper and safe condition throughout progress of the work.

1.4 JOB CONDITIONS:

- A. Make all required connections to existing utility systems with minimum disruption to services in the existing utility systems. when disruption of the existing service is required, do not proceed without the Architect's approval and when required, provide alternate temporary service.

- B. Utility services to the existing park site and buildings must remain fully operational at all times.

PART 2: PRODUCTS

2.1 GENERAL:

- A. All temporary facilities shall be subject to the Architect's approval.

2.2 UTILITIES:

A. Water

1. Furnish and install all necessary temporary water lines and water supply and upon completion of the work, remove all such temporary facilities.
2. The Owner will furnish all water needed for construction at no cost to the Contractor.

B. Electricity

1. Furnish and install all necessary temporary wiring and upon completion of the work, remove all such temporary facility.

C. Telephone

1. Make all necessary arrangements and pay all costs for operation and installation of a permanent telephone service to the Contractor's office at the site.

D. Utilities for Testing

1. Normal quantities of utilities required to make final tests of completely installed permanent systems will be furnished at no cost to the Contractor.

2.3 FIELD OFFICES AND SHEDS:

- A. The Owner shall approve all locations.
- B. Provide a field office trailer adequate in size and accommodation for all Contractors's offices, supply and storage.

- C. Within the Contractor's facilities, provide enclosed heated and air conditioned space adequate for holding weekly project meetings. Furnish with all required tables, chairs and utilities.

2.4 SANITARY FACILITIES

- A. The Owner shall approve all locations.
- B. Provide temporary sanitary facilities in the quantity required, for use of all personnel. Maintain in a sanitary condition at all times.

2.5 CONSTRUCTION AIDS

- A. Furnish, install and maintain for the duration of construction all required scaffolds, tarpaulins, barricades, canopies, warning signs, steps, bridges, platforms and other temporary construction necessary for proper completion of the work in compliance with all safety and other regulations.

2.6 FENCING OF THE CONSTRUCTION AREA

- A. Furnish and install a temporary fence located on property lines, length as required to secure work area of site. Gates to be installed at haul road entry. Exact alignment to be approved by Architect and Owner.

2.7 HAUL ROADS

- A. Provide and maintain all required access to the work from paved areas and other routes, in strict accordance with all regulations governing the Contractor's use of the site.
- B. The location and construction of all haul roads shall be discussed with the Architect and Owner prior to construction.

2.8 MATERIAL STORAGE AREA

- A. The Contractor is to provide an area for the neat and orderly storage of materials not installed. Location to be approved by Architect.

2.9 SOIL EROSION CONTROL DEVICES

- A. The Contractor is to provide necessary soil erosion and sedimentation control devices to complete the project in strict accordance with all regulations governing the site.

PART 3: EXECUTION

3.1 GENERAL

- A. The Contractor shall be responsible for any damage resulting from the installation of the temporary facilities and shall repair any and all damage, to the satisfaction of the Architect and Owner, at no additional cost to the Owner.
- B. Maintain all temporary facilities and controls as long as needed for the safe and proper completion of the work. Remove all such temporary facilities and controls as rapidly as progress of the work will permit or as directed by the Architect and restore the site to its original condition.
- C. The Contractor shall be responsible for all costs associated with the installation and maintenance of all temporary facilities.
- D. The Contractor shall be responsible for maintaining the full operation of all existing utilities. Furthermore, he shall clean out, to the extent necessary, all existing utility lines within the project boundaries, to insure full operation during and after project completion.
- E. The Contractor shall be responsible for all costs associated with the installation of all temporary facilities.
- F. The Contractor shall be responsible for maintaining the full operation all existing utilities. Furthermore, he shall clean out, to the extent necessary, all existing utility lines to insure full operation during and after project completion.
- G. Installation of soil erosion control devices.

*** END OF TEMPORARY FACILITIES AND TEMPORARY CONTROLS ***

**SECTION 01533
TREE AND PLANT PROTECTION**

PART 1: GENERAL

1.1 DESCRIPTION

- A. Provide protection of existing vegetation and other landscape features scheduled to remain.

1.2 WARRANTY

- A. Warranty existing vegetation and site topography against damage until final acceptance of the Project. Repair any damage which, in the opinion of the Landscape Architect, can be satisfactorily corrected. Replace any damaged plant material which partially dies within the duration of the contract, thereby damaging shape, size or symmetry. Warranty replacement plants for one year after final acceptance of the Project.

1.3 DEFINITIONS

- A. Vegetation: Any existing tree, shrub, ground cover, flowers or grass scheduled to remain which presently occurs on the site.
- B. Drip Line: The point where the foliage cover concentrates rain water on the ground. This line follows the general configuration of the outer most edge of a tree or shrub formed by its leaves and branches.
- C. Barrier: A fence installed as a temporary divide for the purpose of preventing unauthorized access during the full period of construction.
- D. Disturbance/Damage: Physical or visual change to the site or the vegetation which, in the opinion of the Landscape Architect and Owner, is detrimental to the vegetation being protected. Such disturbance may be caused by equipment, material or personnel.
- E. Violation: Damage caused by a construction, delivery, or transportation vehicle, through construction material storage or usage and through solid or liquid debris or disposal shall be considered a violation. The Owner's Representative will convey the observed violation within 7 days of violation. The written notice shall include the date, the approximate time, the general location and type of violation.

PART 2: PRODUCTS

2.1 FENCING

- A. Galvanized field/stock fence, 12.5 gauge, 38 inch height or "Tynar" fence.

2.2 POST

- A. Studded steel "T" post - 6 feet long with wire clips.

PART 3: EXECUTION

3.1 PROTECTION

- A. Protect all individual or groups of trees to be saved by erecting fencing around each tree or group of trees. Install and maintain the fencing at the tree drip line. The fencing shall remain in place until removal is approved by Landscape Architect.
- B. Protect all large areas of vegetation to be saved by erecting a barrier in the location indicated and approved in the field by the Landscape Architect.

3.2 FENCING

- A. Post: Set post plumb, 18 inches minimum deep spaced maximum 6 feet on center and at each corner.
- B. Fencing: Pull fencing taut to prevent sagging and secure to post with wire clips.

3.3 MAINTENANCE

- A. Maintain fencing in a newly installed condition until the removal is approved by the Architect.

*** END OF TREES AND PLANT PROTECTION ***

**SECTION 01700
PROJECT CLOSEOUT**

PART 1: GENERAL

1.1 DESCRIPTION:

A. In general the work under this Section includes the following items:

1. Project clean-up.
2. Guarantees and warranties.
3. Operations and warranties.
4. As Built drawings.
5. Spare parts.

1.2 RELATED WORK MATERIALS AND EQUIPMENT:

A. All sections that require spare parts as a condition of the contract.

PART 2: PRODUCTS

2.1 CLEANING MATERIALS AND EQUIPMENT:

A. Provide all required personnel, equipment and materials needed to maintain the specified standard of cleanliness. Use only materials and equipment which are compatible with the surface being cleaned as recommended by the manufacturer of the material or as approved by the Architect.

2.2 GUARANTEES AND WARRANTIES:

- A. The Contractor shall also, once the work has been completed and the work in its totality accepted by all parties, forward a general guarantee for the project for a one year period commencing on the date of the final acceptance for the project by the Owner.
- B. Subcontractor's guarantees, equipment and material warranties shall also be included as part of the guarantee submittal for the time length pertaining to each Section of the work.

2.3 OPERATION AND MAINTENANCE DATA:

- A. The Contractor shall obtain from the various subtrade contractors various operation and maintenance data, replacement parts lists and maintenance schedule requirements, bound into a 3-ring notebook. Three sets shall be turned over to the Architect prior to request for final payment.
- B. Data shall be inclusive of the entire system.

2.4 AS BUILT DRAWINGS:

- A. Final record "As Built" drawings shall be neatly prepared on reproducible copies of all the contract drawings by the Contractor and turned over to the Architect. The Architect will provide one paper sepia copy of each original contract drawing to the Contractor for this purpose.

2.5 SPARE PARTS:

- A. The Contractor shall provide all spare parts identified within each individual Section of the Technical Specifications at no additional cost to the Owner. The complete list of spare parts provided shall be submitted and identified within the Operations and Maintenance Manual.

PART 3: EXECUTION

3.1 PROJECT CLEAN UP:

- A. Project cleaning shall be done periodically so as not to allow the accumulation of scrap, debris, waste materials and other items on the project site.
- B. In general, the site should be kept in a reasonably neat and orderly condition at all times.
- C. Construction shall be cleaned on a daily basis to ensure workman safety. Waste materials shall be deposited in an approved container such as a dumpster in a location acceptable to the Architect.
- D. Final cleaning shall be construed to mean a level of cleanliness generally provided by skilled cleaners using commercial quality, building maintenance equipment and materials.

- E. Final site cleaning shall consist of sweeping and washing down all hard surfaced areas including any public roads and sidewalks which show visible signs of dust and debris from construction traffic. All debris shall be removed and disposed of.
- F. The Contractor shall schedule final cleaning as approved by Architect to enable the Owner to accept a completely clean project.

3.2 GUARANTEES AND WARRANTIES:

- A. Execute all guarantees and warranties as required under Part 2.2 Products. Enclose all documents within three Operations and Maintenance Data notebooks and submit to Architect.

3.3 OPERATIONS AND MAINTENANCE DATA:

- A. Operation and maintenance manual shall be neatly bound into a looseleaf style notebook with each trade so indexed.
- B. Equipment subject to winterization procedures shall be accompanied with both winterization and spring start-up instructions. Additionally, these instructions shall be mounted with a weather proof covering and fully displayed in the mechanical rooms near the appropriate equipment.
- C. Contractor(s) shall be responsible for the winterization(s) of this irrigation system(s) if any time during the life of this Contract, freezing conditions could occur and cause damage or improper operation.

3.4 AS BUILT DRAWINGS

- A. Provide as Built Drawings as required under Part 2.4 Products of each individual section; prior to the request for final payment or project to substantial completion.

3.5 SPARE PARTS

- A. Provide all spare parts as required under Part 2.5 Spare Parts of each individual section prior to request for final payment.

*** END OF PROJECT CLOSE OUT ***

GENERAL SPECIFICATIONS

1. SPECIFICATIONS

Specifications are divided into two sections -- General Specifications and Detailed Specifications.

General Specifications cover matters generally applicable to more than one or all phases of the work.

Detailed Specifications are subdivided into divisions, each division pertaining to a particular phase of the work. It is not the intent, nor shall it be so construed, that work included in any one division must be performed by a particular trade or by subcontract. Likewise, the work to be performed by a particular trade is not necessarily restricted to that of any one division. Any item mentioned under any heading must be supplied even though it is not called for again under the heading for the respective work.

Specific requirements stated in various divisions of the Detailed Specifications as though applicable to a single item or one unit of work shall also apply to all additional like items or units required by the Contract, and shall not be interpreted as designating that only a single item or one unit is required.

2. PUBLICATIONS BY REFERENCE

Where reference is made in the Detailed Specifications to publications, such as specifications or standards of a technical society, trade association, governmental agency, and the like, it is understood and agreed that such publications are a part of the Detailed Specifications, to the extent indicated by the specific references thereto, as though fully repeated therein.

In interpreting any referenced publication, terms such as "Purchaser", "Owner", etc. shall be understood to mean the City of Detroit; terms such as "Manufacturer:", "Supplier", and the like shall mean the Contractor. It is also understood and agreed that the use of any referenced publication shall not necessarily be restricted to matters which may be named in its title but shall be used or applied as set forth in the Detailed Specifications.

A copy of each referenced publication is on file in the Architect's/ Engineer's Office and is available for inspection by the Contractor. However, it is assumed that a Contractor experienced in the type of work involved will have his own source of access to the referenced publications.

In certain divisions of the Detailed Specifications, the publications pertaining to the particular division are individually listed in Part I - Scope under the article heading "Referenced Specifications" by publisher, full title, basic designation, and specific issue identification. Thereafter, each publication, where used, will be referred to only by publisher and basic designation. The abbreviation used elsewhere to denote the respective publishers is shown in parenthesis following the full name in the listing.

Where only the publisher's abbreviation and basic code number is used alone with a designated material or test method, it shall be understood that such referenced publication establishes the requirement to be met, compiled with or followed, as for example:

Materials

"Cement - A.S.T.M. C 150, Type I"

shall mean and be interpreted as though written -

"The cement shall conform to the requirements of A.S.T.M. Specifications for Portland Cement, C 150-65, Type I."

or

"Gas pipe - Fed. Spec. WW-P-406b, Weight A, Class 1"

as written -

"Gas pipe shall conform to the requirements of Federal Specification Pipe, Steel (Seamless and Welded) (for Ordinary Use), June 26, 1961."

or

"Manhole frames and covers shall be gray iron castings, A.S.T.M. A 48, Class No. 30B"

as written -

"Manhole frames and covers shall be gray iron castings conforming to the requirements of A.S.T.M. Specifications for Gray Iron Castings, A46-64, Class No. 30B."

or

Test Methods

"Aggregate Sampling - A.S.T.M. D 75"

shall mean and be interpreted as though written -

"The aggregates shall be sampled in accordance with the requirements of A.S.T.M. Method of Sampling Stone, Slag, Gravel, Sand, and Stone Block for Use as Highway Materials,, D75-59."

or

"Painting Materials Testing - Fed. Stand. 141"

as though written -

"Painting materials shall be inspected and tested in accordance with the requirements of Federal Standard 12 (Change 3), Paint, Varnish, Lacquer, and Materials: Methods of Inspection, Sampling, and Testing, March 18, 1963."

Procedure

"Surfaces of ferrous materials prior to being painted shall be cleaned and prepared - Fed. Spec. TT-C-490"

shall mean and be interpreted as though written -

"Surfaces of ferrous materials prior to being painted shall be cleaned and prepared in accordance with the requirements of Federal Specification - Cleaning Methods and Pretreatment of Ferrous Surfaces for Organic Coatings, March 30, 1961."

In certain divisions of the Detailed Specifications, a reference publication may be used alone with a designated material or test method even though not previously listed in Part I under "Referenced Publications". In such cases, however, the referenced publication will be cited by publisher: full title, basic designation, and specific identification. When so used, it is understood to have the same meaning as above provided.

3. ABBREVIATIONS

The following listed letters and abbreviations, while all do not necessarily appear else in this Contract, when used, shall mean and be interpreted as follows:

A.N.S.I.	- American National Standard Institute
A.R.E.A.	- American Railway Engineering Association
A.S.C.E.	- American Society of Civil Engineers
A.S.H.R.A.E.	- American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc.
A.S.M.E.	- American Society of Mechanical Engineers
A.S.T.M.	- American Society for Testing and Materials
A.W.G.	- American Wire Gauge
A.W.W.A.	- American Water Works Association
I.E.E.E.	- Institute of Electrical and Electronic Engineers
N.E.C.	- National Electrical Code
N.E.M.A.	- National Electrical Manufacturing Association
"Building Code"	- BOCA Basic Building Code - 1078, as amended by City of Detroit Ordinance 288-219H, effective November 15, 1978.
"Plumbing Code"	- BOCA Basic Plumbing Code - 1978, as amended by City of Detroit Ordinance 256H and 257H, effective June 23, 1978.
"Fed. Spec."	- Federal Specification issued by the Federal Supply Service, General Services Administration, U.S. Government.
M.D.O.T.	- Michigan Department of Transportation
P.L.D.	- Public Lighting Department

4. MATERIALS BY REFERENCE

A material included in more than one division of the Detailed Specifications will, in general, be specified in detail in only one of the divisions. In the other divisions the material is specified by reference to the section of the division containing the detailed specifications for the same material, and such detailed specifications shall be considered as much a part of the other divisions as if they were therein repeated in full.

5. EQUIPMENT

It is the intent of the specifications that all equipment be of reliable make and of a design that has proven satisfactory through successful use under comparable conditions, and that no experimental or untried type of equipment, machinery, or apparatus be furnished.

All items of equipment of standard design and manufacturer shall be the latest stock catalog products of reputable manufacturer, where two or more items of the same kind or type of equipment is required, they shall be the products of a single manufacturer.

6. INFORMATION BY CONTRACTOR

Information to be submitted by the Contractor pursuant to Article 10 of the General Conditions, relative to materials and equipment which he proposes to furnish and the manner and arrangements for incorporating them in the work, shall be submitted as herein prescribed.

The Architect/Engineer will determine the form in which the various information is to be submitted, whether by shop drawings, specifications, lists, cuts, samples, or otherwise. The size, general character, or arrangement of the information shall be subject to the Engineer's approval, and the Contractor shall confer with the Engineer before commencing its preparation.

Shop drawings, in general, will be required to show shop and field fabrication, assembly or erection, and arrangement of the work. Specifications shall be furnished to supplement the shop drawings when, in the judgment of the Engineer, such are required, or when shop drawings are not required.

For such materials, equipment, or arrangements which are standard or stock catalog items, the Engineer may waive the requirements of special drawings and specifications. In such instances, the Contractor shall furnish full information in the way of lists, cuts, samples, or otherwise, which the Engineer determines as adequate and sufficient to clearly show what the Contractor proposes to furnish.

A. Checking and Approval by Contractor - All information, including that prepared by others for the contractor, before being submitted to the Architect/Engineer shall first be checked and approved by the Contractor and evidence of such approval shall be indicated by a stamp of approval or other positive means acceptable to the Architect/Engineer. Information submitted without such evidence of approval by the Contractor will not be considered and will be returned to the Contractor for proper approval.

The Contractor shall thoroughly check the information as regards measurements, sizes, materials, and details for conformity with the detailed Contract requirements. Information found incorrect, incomplete, or otherwise in error shall be corrected before submission to the Engineer.

B. First Submission - Information shall first be submitted to the Engineer in duplicate, or, if the Contractor prefers, in triplicate. In general, the information shall be submitted in the order in which the materials, equipment, or arrangements will be needed on the work, without necessarily waiting for the completion of all information before submitting part of it for approval. However, as far as practicable, all information of any particular or related parts of the work shall be submitted at the same time so that the Engineer may intelligently judge the acceptability of the proposed materials, equipment, or arrangements. The Engineer shall have the right to decline to check any information which, in his opinion, must be judged in conjunction with related information until such related information has been submitted.

If any of the information is in variance with the detailed Contract requirements because of standard shop practice or other reason, the Contractor shall make specific mention of and give the reasons for such variation in his letter of transmittal in order that, if acceptable, suitable action may be taken for proper adjustment; otherwise the Contractor will not be relieved of his responsibility for executing the work in strict accordance with the detailed Contract requirements even though the information has been approved by the Engineer. It shall not be implied or interpreted that the provision of this paragraph permits or invites general variance from the detailed requirements of the Contract.

C. Engineer's Check - The Engineer will check the information submitted for compliance with the Contract requirements. If the information is found to meet the Contract requirements, the Engineer will so notify the Contractor and advise as to the number of additional copies of the information that will be required for final approval and distribution. The Contractor shall promptly submit the additional copies requested, which will be not less than four for the City's use plus as many more as the Contractor may reasonably need for his use.

If any of the information submitted by the Contractor is found by the Engineer to not meet the Contractor requirements, the Engineer will return one copy, or two if the Contractor has previously submitted three copies, marked with the notations, corrections, or changes that are required. Returned, unapproved information shall be promptly revised or corrected by the Contractor and resubmitted to the Engineer.

D. Engineer's Approval - Upon receipt of the additional copies of the information which the Engineer has previously found to meet the Contract requirements, the Engineer will place his approval on each copy and return such copies bearing his approval which the Contractor had furnished for his use. The work shall thereafter be performed in conformity with such approved information.

Where the information as submitted indicates a variation from the detailed Contract requirements, and the Contractor has made specific mention and has given reasons for such variation, the Engineer, if he determines the variation to be a minor adjustment in the interest of the City, may approve the information, but the approval will contain in substance, the following:

"The modification contained herein is approved in the interest of the City of Detroit with the understanding that all other Contract terms and conditions remain unchanged."

7. SAMPLES, CERTIFICATES, AND TESTS

The Contractor should, in general, request approval by the Engineer of the various materials proposed for use in the work before they are delivered to the site. No materials, however, for which samples are specifically required for test and approval shall be delivered to the site until representative samples have been tested and approved, unless such requirement is expressly

waived by the Engineer, and then only at the Contractor's risk of subsequent rejection. Samples of materials and certificates relating to them shall be submitted as stipulated in the Detailed Specifications or as directed by the Engineer.

A. Samples - All samples shall be taken in such manner as to be truly representative of the entire lot and shall not be worked on in any way as to alter the quality or appearance. The samples shall be of such size, quantity or number as to permit the Engineer to properly judge their acceptability and make such tests as may be required. If the samples are taken by the Engineer, the Contractor shall furnish such assistance and facilities as required by the Engineer for collecting, forwarding, and storage.

Samples shall be so packed that they will reach their destination in good condition and samples of liquid or viscous materials shall be shipped in tight metal containers. All samples shall be properly labeled, or otherwise marked, to show the material or product represented, its place of origin, the name of the producer, the name of the Contractor, and the Contract number for which it is intended.

The samples shall be delivered with all transportation charges prepaid by the Contractor to the location designated by the Engineer.

B. Certificates - When stipulated in the Detailed Specifications or required by the Engineer, a certificate shall be submitted to the Engineer, in triplicate, attesting that the material, equipment, or accessory submitted complies with the Contract requirements. The certificates shall include the following information:

a) Name and brand of the product, name of manufacturer, location of the plant

b) An outline giving the chemical and physical properties of the material represented by the sample submitted, and giving the name of the testing laboratory which made the test, and the dates of the tests. This information may be omitted in the case of materials required to conform to Federal Specifications or A.S.T.M. Standards, provided a certified statement by an acceptable testing laboratory is furnished in lieu thereof.

c) If the statement originates with the producer, the Contractor shall endorse all claims and submit the statement in his own name. The Contractor shall also guarantee that all materials furnished for use under the Contract will be in compliance with the samples and certificates.

C. Tests - Tests will be made by such methods and in such numbers as the Engineer shall determine to be adequate and equitable. Whenever materials are required to conform to Federal Specifications or A.S.T.M. Standards, and such specifications are accepted as establishing the technical qualities and testing methods, they shall not necessarily govern the number of tests required to be made. The Engineer may require laboratory tests on samples submitted or may approve materials on the basis of data submitted in certificates with the samples.

If the tests of the samples submitted indicate that the proposed material will not conform to the Contract requirements, the Engineer will notify the Contractor that the proposed material is unacceptable and rejected, and will furnish the Contractor the basic reasons for such rejection. However, the Engineer shall not be required to furnish the Contractor with copies of all the test data and results.

D. Engineer's Approval - Approval by the Engineer will be general only and shall not constitute a waiver of the City's right to demand full compliance with the Contract requirements. When a material has been approved, no change in brand or make will be permitted unless:

- a) The manufacturer cannot make satisfactory delivery; or
- b) The material as delivered fails to comply with the Contract requirements.

E. Field Check Tests - After actual deliveries of materials to the site, the engineer will make such check tests as he deems necessary to insure compliance of the materials delivered or used with the Contract requirements. The Engineer may reject such materials for cause even though such materials have previously been given general approval. If materials which fail to meet field check tests have been incorporated in the work, the Engineer shall have the authority to require their removal and replacement with proper materials conforming to the Contract requirements.

8. MATERIALS DELIVERY, STORAGE, AND HANDLING

All materials shall be so delivered, stored, and handled as to prevent the inclusion of foreign matter or damage by water, breakage, exposure or other means. Packaged materials shall be delivered in original, unopened packages, and properly stored until ready for use. Packages showing evidence of water or other damage shall be rejected unless the contents are specifically approved for use by the Engineer. Any material showing evidence of water or other damage shall be rejected.

All materials that have been stored shall be subject to re-examination or retest and must meet the requirement of their respective specifications at the time they are to be used in the work regardless of any prior test or approval by the Engineer.

9. WATER FOR CONSTRUCTION

Water in reasonable amounts is available at the site and may be used by the Contractor without cost providing the water is not wasted or used in a manner that creates a nuisance. If, in the judgment of the Engineer, the Contractor is wasting the water, the Contractor shall take immediate steps to stop the waste or he will be required to pay for all water used or secure his own source and bear all costs therewith, as directed by the Engineer.

10. TEMPORARY POWER, LIGHT AND HEAT

Electric lights shall be used and power-driven construction equipment shall be electrically operated throughout the work insofar as possible. The Contractor shall furnish all wiring, switches, fuses, receptacles, lamps, etc., as may be required for his work in addition to that available at the site.

Temporary power and light circuits shall be thoroughly insulated and waterproof. No voltage higher than 460 volts shall be used on any power line, nor more than 115 volts on any lighting circuit, unless specifically approved by the Engineer. All switches shall be of the enclosed safety type. The temporary power and lighting system shall be subject to inspection and approval of the Department of Building and Safety Engineering.

Adequate temporary heat necessary for proper protection and drying of all work shall be provided until the structure is accepted by the City. Until the structure is enclosed, heavy tarpaulins, or other suitable means shall be provided to enclose the space requiring heating or protection from the weather during construction operations. All temporary heating devices shall meet the requirements of the Detroit Official Building Code and shall be subject to the Engineer's approval. In no case shall any heating devices or means be used which may in any way damage or impair the completed work.

After the permanent heating system is in operating condition and the structure is enclosed, heat may be provided from the permanent heating plant if and as approved by the Engineer. In such case, the Contractor shall arrange to operate the plant, connecting permanent or temporary space heating devices, and so maintain the plant during operation that it will be turned over to the City undamaged at the completion and final acceptance of the work. The Contractor shall provide all labor and fuel required and pay all other costs.

11. PROGRESS SCHEDULE

Within ten days after the date stipulated in the written notice to begin work, unless otherwise directed or authorized by the Engineer, the Contractor shall submit to the Engineer five copies of a proposed Construction Progress Schedule, in a form satisfactory to the Engineer, showing in a clear graphical manner:

- a) The anticipated date of commencement and completion of the various operations to be performed under the Contract, including submission of shop drawings and other information requiring approval of the Engineer which directly control the key operations.
- b) The sequence and inter-relationship of each of those operations with the others and, when applicable, with those of other related contracts; and
- c) The estimated time required for fabrication or delivery, or both, of controlling materials and equipment required for the work.

The Schedule shall be predicated on the completion of all the work on or before the date specified herein.

After being accepted as satisfactory by the Engineer, the Schedule shall be strictly adhered to by the Contractor, subject however, to the provisions next below relating to revisions.

12. REVISIONS OF SCHEDULE - The accepted Schedule shall be revised by the Contractor and five copies submitted to the Engineer:

- a) If the time allowed for completion is extended by the city;
- b) If extra work was ordered by the City which is not included in operations originally shown;
- c) If the actual progress of the work is such that, in the judgment of the Engineer, the remaining work to be performed will not be started or completed, or both, as indicated by the Schedule.

The revisions shall be made in such manner as to not obliterate the original schedule but will show where and to what extent the Schedule has been revised. Such revised Schedule shall be acceptable to the Engineer and thereafter shall be strictly adhered to by the Contractor.

13. SIGNS

Advertising signs of any kind shall not be erected or displayed on the site. Job instruction signs, such as "Danger", "Keep Out", etc., shall be furnished, erected, and maintained by the Contractor as may be required to safely conduct and protect the work. Such signs shall be near appearing, substantially erected, kept in good condition, and promptly removed when their usefulness has ended.

14. TEMPORARY CONSTRUCTION FACILITIES

All temporary construction facilities used by the Contractor and his subcontractors shall be neatly constructed and arranged on the site in an orderly manner. The general arrangement of such facilities shall be subject to approval by the Engineer. When so required by the Engineer, the Contractor shall prepare and submit to the Engineer, for approval prior to starting work, a construction plan layout, showing arrangement of storage areas, temporary buildings, construction equipment, and storage and work areas.

Suitable, weather tight storage sheds, with raised floors, shall be provided, of capacity required to contain all materials which might be damaged by storage in the open.

Construction equipment and other facilities such as ladders, ramps, etc., shall be strong, substantial, and safe, and suitable for the purpose intended and shall meet all the applicable requirements of the State of Michigan and Department of Buildings and Safety Engineering, and shall also be subject to the Engineer's approval.

Whenever practical and as soon as possible, permanent parts of the work shall be used in the place of temporary facilities when authorized by the Engineer. Adequate precautions, however, shall be used to prevent damage to such parts of the permanent work so used during construction.

When temporary buildings, construction equipment, and other facilities are no longer needed for the work they shall be promptly dismantled and removed from the site.

15. FIELD OFFICE

A temporary field office shall be provided on the site at a location approved by the Engineer. The field office may be in a building or trailer, neither of which need not necessarily be new, but which will provide the following minimum requirements. The construction shall be substantial and weathertight and be in good condition throughout, with doors and windows which may be securely locked.

A space approximately 10 feet square with full-height partition shall be provided for the exclusive use of the Engineer. This space shall be so located that it may be entered by a separate outside door, or so arranged that persons will not have to pass through it to reach the space used by the Contractor. The Engineer's space shall be with a 3 x 5 foot desk with drawers that be locked, two chairs, a plan rack, and adequate electric lights, one being over the desk.

A temporary telephone shall be installed in the field office and the Contractor shall bear all costs therewith. The telephone shall be available for use by the Engineer.

During working hours, heat shall be provided for the Engineer's space when the outside temperature is 60 degrees F. or lower.

16. CLEANLINESS OF WORK AND STREETS

The work and all public or private property used in connection with the work shall be kept in a neat and orderly condition at all times. Waste materials, rubbish, and debris shall not be allowed to accumulate. Construction equipment and excess materials shall be promptly removed from the site as they become no longer needed for the progress of the work. At the completion of the work, the premises shall be left broom and rake clean.

Trucks hauling loose materials from or to the site shall be tight and their loads trimmed to prevent spillage on the public streets and roads. The requirement likewise applies to suppliers making deliveries to the site and the Contractor will be held responsible for compliance by his suppliers. The Contractor shall promptly clean streets and roads dirtied by any cause arising from his operations. Should he fail to maintain proper street cleanliness, the City will clean such streets and charge all costs therefor to the Contractor.

17. SANITARY REQUIREMENTS

Committing of nuisance on the site is prohibited. Any employee who violates such provisions shall be promptly removed from the work and shall not again be employed on the work without the written consent of the Engineer.

At the start of the work at the site, suitable and adequate toilet facilities shall be provided for all persons employed on the site. Subject to the approval of the Engineer as to number, type, size, and location. The facilities shall be maintained in a sanitary condition, frequently cleaned and disinfected, and shall be promptly removed from the site when directed by the Engineer.

18. FIRST AID

A completely equipped first-aid kit shall be provided and maintained at the site in a clean orderly condition, and shall be readily accessible at all times to all the Contractor's employees. The Contractor shall designate certain employees who are properly instructed to be in charge of first aid. At least one such employee shall be available whenever work is being carried on.

Telephone call lists for summoning aid from outside sources, such as doctors, ambulances, pulmotor, and rescue squads, shall be conspicuously posted at the site.

19. BARRICADES AND LIGHTS

The City Ordinance (Article 58-1-7, Municipal Code) relative to barricades and colored lights around excavated areas, shall be observed by the Contractor. Further, the Contractor shall furnish and maintain sufficient and suitable barricades, guard fences, and transistorized lights, as approved by the Engineer, to clearly indicate all equipment, materials or any other hazards that might cause an accident.

20. FINAL CLEANING OF BUILDING

Upon completion of the construction and prior to final acceptance, all work shall be left free of stains, paint spatters, marks, fingerprints, dust, dirt, etc.

21. EXISTING STRUCTURES

The Contractor shall assume full responsibility for the protection of all buildings, sewers, or other structures and their foundations, as well as other improvements, such as pavements and utilities, which might be affected by his operations. Should settlement or lateral movement of adjacent structures or surface features occur, such conditions shall be rectified at the Contractor's expense.

If damage to any structures, utilities, or other improvements occurs by reason of the Contractor's operations, even though special precautions have been employed, the Contractor shall be entirely responsible for such damage.

22. WORKING AREA AND MAINTENANCE OF TRAFFIC

A. General - Construction equipment, storage of materials, and construction operations shall be restricted to the area shown on the Drawings.

Trucking routes selected by the Contractor shall be subject to regulations of the Department of Transportation of the City of Detroit.

The Contractor shall properly protect all curbs. Any curbs damaged by Contractors Operations shall be replaced at no cost to the City.

B. Manhole and Minor Street Openings - The working site at a manhole, sewer connection, and other minor street openings shall be kept as small as practicable. The site need not be fenced, but shall be well protected by substantial barricades and adequate warning flags, signs, and lights. The work at such location shall be completed without undue delay so that the opening may be filled in as soon as possible. Whenever work is not underway, a small street opening shall be covered at pavement level with a securely anchored substantial steel plate sufficiently strong to carry truck traffic.

C. Open-Cut Work - All operations necessary for the open-cut work, including the temporary storage of construction materials and equipment, shall be restricted to the City streets and alleys adjacent to the work, or the area shown on the drawings.

Where work is required to be done under existing sidewalks, as much of the existing sidewalk area may be occupied at one time as may be necessary, but safe pedestrian passageways shall be provided and maintained until the sidewalk is replaced permanently.

Safety precautions shall be taken at all open-cut excavations. Substantial barricades shall be erected and maintained as necessary to prevent accidents to vehicular and pedestrian traffic. Red flags by day and red lights by night shall be diligently posted at all points of possible danger.

23. VENTILATION

If gas is present in existing sewers where it is necessary for the Contractor to work, the sewer shall be cleared of gas before entering. If the gas cannot be removed by natural ventilation, that is, by removal of manhole covers, the Contractor shall maintain forced draft ventilation, so as to render the sewers safe as determined by gas test.

No employee of the Contractor shall enter any existing sewer until gas test has been performed.

24. EXISTING UTILITIES

Public utilities of all types have been shown on the Drawings. The locations of these utilities are shown using the best information available. No guarantee is given that the locations are absolutely accurate or that other utilities than those shown are not present. Before starting construction, the Contractor shall check the City departments and Public Service Organizations to ascertain for himself the location of all utilities which might interfere with the work and shall give due notice to all organizations whose utilities will be affected by his operations.

All public utilities, including building connections, whether or not indicated on the Drawings, which are adjacent to the construction but which, in the judgement of the Engineer may be left in place, shall be maintained in accordance with the standard method employed by the utility involved and in such a manner as to secure the safety of the public and of adjacent structures or utilities. Such maintenance shall be by the Contractor or at his instance and expense.

When the Contractor deems it unsafe, impractical, or impossible to construct the work without moving a utility, he shall so notify the Engineer. Should the Engineer concur in the Contractor's opinion, the Engineer shall notify the utility concerned to have said utility moved accordingly. The work of moving said utility shall be without expense to the Contractor.

The City shall not be responsible for any delay which the Contractor may encounter due to the failure on the part of the utility involved to promptly maintain or move any interfering utility.

If an open trench is machine dug, care must be exercised by the Contractor that he does no damage to any public utility or service connection, hand work being required at all points of utility crossing.

Should damage to any existing utility result from the operation of the Contractor, he shall be liable for the entire cost of restoration.

Whenever the sewer under construction crosses existing sewers or utility pipes and conduit, special precaution shall be taken and protective measures used to avoid damage to the existing facilities.

When sewer work is being done adjacent to or under a water main which, in the judgement of the Engineer, may constitute a hazard to either the sewer main or the sewer work, construction shall be adapted to provide minimum earth movement and afford maximum protection.

While working near a water main that is considered a hazard, it is advisable to cut off the pressure in such main. Wherever it is possible to do so, the Detroit Metropolitan Water Service will cooperate by taking such mains out of service while construction work is progressing in their vicinity. In general, such removal from service may be done only in the Winter months between October 1, and April 1. Under no circumstance shall the Contractor operate water main valves.

25. MAINTAINING SEWAGE FLOW AND DRAINAGE

Both the dry weather and storm flows in all existing sewers, which may in any way be affected by the new construction, shall be adequately maintained. Only such methods shall be used in maintaining flows as will prevent raising the levels of the sewage in upstream sewers to the extent to cause basement flooding or other damage. All gutters, ditches, catch basins, and other surface water inlets and drains shall be kept clear for proper surface drainage. Surface water inlets and

drains which interfere with the Contractor's operations shall be altered or relocated by the Contractor as directed or as approved by the Engineer.

Should the Contractor desire to place or remove any restrictions, such as bulkheads, curtain walls, dams, sand bags, or flumes, or to leave temporary openings in any sewer wall, or to allow storm flow through the work, as part of the plan of construction operations, approval shall first be obtained from the Engineer. Any temporary obstruction so placed shall be promptly removed when no longer needed. Any temporary opening made in an existing sewer structure, shall likewise, be promptly closed when no longer needed. Such closure shall be made as directed by the Engineer to provide structural and hydraulic conditions equivalent to those originally existing.

Should flooding or damage to construction work result from storm conditions, the Contractor will not be entitled to any extra compensation for such loss as he may sustain, or for the extra work that may result therefrom.

26. PUMPING AND DRAINAGE

Adequate pumping and drainage facilities shall be provided, and all water from whatever sources entering the work during any stage of construction shall be promptly removed and disposed of. All pumping and drainage shall be done without damage to property or structures and without interference with the rights of the public, owners of private property, pedestrians, vehicular traffic, or the work of other contractors. Dewatering shall be done in such a manner that the soil under or adjacent to existing structures shall not be disturbed, removed or displaced.

The overloading or obstructing of existing drainage facilities will not be permitted and the Contractor shall be solely responsible for damages caused by his operations.

27. CONNECTIONS TO EXISTING SEWERS

All sewers of record have been shown on the Drawings, using the best information available. No guarantee is given or implied that the locations as shown are absolutely correct or that other sewers, in addition to those shown, are not present.

Existing sewers which are to be connected to the new work are so indicated on the Drawings. Should other existing sewers be encountered which, in the judgement of the Engineer, need likewise to be connected, the connections shall be made as directed by the Engineer and the cost thereof paid for in accordance with the Contract provisions for changes in the work, Articles 19 and 20 of the General Conditions.

All broken concrete and other debris resulting from making connections must be removed from the existing and new sewers and structures.

28. SAFETY PRECAUTIONS

During the progress of the work the Contractor shall maintain adequate facilities for the protection and safety of all persons and property. All local, state and national laws, ordinances, rules and regulations pertaining to the kind, use and loading of all apparatus and equipment shall be complied with and all other reasonable precautions shall be taken to insure safe working conditions which may be ordered by the Engineer.

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29. EXPLOSIVES AND BLASTING

No blasting shall be done.

30. CODE REQUIREMENTS

All codes, rules and regulations of the Department of Buildings and Safety Engineering of the city of Detroit shall be complied with.

31. GOVERNMENT REGULATIONS

The Contractor shall comply with all rules, regulations, orders, etc., of any governmental agencies applicable to the work under this contract. The Contractor shall cooperate with the City in promptly furnishing any information required by such agencies. It shall be an obligation of the Contractor to keep himself informed of governmental rules, regulations, orders, etc., which are applicable to his work.

The Contractor shall make the requirements of this Article a part of any subcontract he may enter into.

32. HISTORICAL SPECIMENS

Any and all specimens of historical or scientific value or interest encountered in the work shall be preserved and delivered to the Engineer.

33. PROVISIONS FOR THE HANDICAPPED

All requirements of the State of Michigan and American National Standards Institute regarding accommodations for the physically handicapped shall be complied with.

34. SOIL CONDITIONS

The Contractor shall assume all risks and responsibility because of existing soil conditions and shall complete the work in whatever ground conditions he may encounter or create, without additional cost to the City.

PART II: GENERAL REQUIREMENTS AND TECHNICAL SPECIFICATIONS

DIVISION TWO: TECHNICAL SPECIFICATIONS

**SECTION 02010
SUBSURFACE CONDITIONS**

PART 1: GENERAL

1.1 DESCRIPTION

- A. In general, the work under this Section includes but is not limited to, the following items:
 - 1. The removal of unsuitable soils, debris and concrete rubble discovered during excavation for all proposed work.
 - 2. The removal of abandoned utility lines and structures.
 - 3. The capping of "live" utility lines and the removal of the abandon portion.
 - 4. The removal of wood pilings presently under water.
 - 5. Additional soils testing information produced by the Contractor at his discretion, and cost.
- B. The following summary reports of contamination and soils analysis produced by Neyer, Tiseo & Hindo, Ltd. are available for review at the office of the City of Detroit Recreation Department.
 - 1. Report on Contamination Assesment, September 29, 1988.
 - 2. Report on Geotechnical Exploration and Evaluation, February 5, 1990.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Clearing and Demolition, Section 02100
- B. Earthwork, Section 02200
- C. Site Utilities, Section 02500

1.3 QUALITY ASSURANCE

- A. Only a Registered Soil Engineer shall conduct the soil testing for the Contractor.

1.4 SUBMITTALS

- A. In compliance with Section 01300, as applicable, submit the following material information, specification, shop drawings, and samples of:
 - 1. All soil testing information.

PART 2: PRODUCTS

2.1 SOIL TESTING INFORMATION (if executed)

- A. Soil testing information shall be executed per Contractor's directions, that are approved by Owner and Architect.

PART 3: EXECUTION

3.1 GENERAL

- A. Prior to the execution of any work under this section (except an emergency utility line repair) the Contractor shall discuss the condition with the Architect and Owner.
- B. Removal, of typical amounts of unsuitable soil, debris, concrete rubble, abandon utility lines and structures should be anticipated by the Contractor and included within his base bid.
- C. Bidders should visit the site and acquaint themselves with existing conditions. Prior to bidding, bidders may make their own subsurface investigations, at no additional cost to the Owner, to satisfy themselves as to site and subsurface conditions, but all such investigations shall be performed only under time schedules and arrangements approved in advance by the Architect.
- D. If, upon reviewing available information and inspecting the site, the Contractor feels the soil is unsuitable for proper implementation of the work, he shall submit three copies of a Soil Report prepared by an approved Soil Testing Lab for review by the Architect and Owner.
- E. The excavation and backfilling of unsuitable materials is described in Section 02200, Earthwork.
- F. The Contractor shall notify the Owner and Architect immediately upon encountering any specimens of potential historic, scientific value or interest.

SVM-8801
Mt. Elliott Park

02010-3

- G. Inactive and abandoned utilities not shown on plans encountered in excavation and grading operations shall be removed, plugged or capped as required. this work shall be documented in the "As Built" Drawings. The Contractor shall engage and pay appropriate trades to cut off, seal, cap, plug or remove if required existing utilities which are indicated or specified to be abandoned. This cost shall be in addition to the base bid amount and be negotiated with the Owner prior to beginning any work.

*** END OF SUBSURFACE CONDITION ***

**SECTION 02100
CLEARING AND DEMOLITION**

PART 1: GENERAL

1.1 DESCRIPTION

- A. In general, the work under this Section includes, but is not limited to, demolition and removal of the following items:
 - 1. Clean up and removal of debris along river edge including miscellaneous steel poles and debris with steel cables and rods, foundation removal, wood piles, steel sheeting, large twisted steel debris, concrete blocks, large concrete pieces.
 - 2. Miscellaneous scrub vegetation removal.
 - 3. Clean-up and removal of miscellaneous debris including pavement, bricks, abandoned automobiles.
 - 4. Off-site disposal of all demolished deleterious and unsuitable materials which include inorganic materials or hazardous waste and exclude concrete, brick or stone.
 - 5. Removal and off-site disposal of abandon utility lines and storage tanks.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Subsurface Conditions, Section 02010
- B. Earthwork, Section 02200

PART 2: PRODUCTS

2.1 GENERAL

- A. No products are required under this section of the work.

PART 3: EXECUTION

3.1 GENERAL

- A. Contact 'Miss Dig' prior to beginning any work.

- B. Unless otherwise noted, clearing demolition shall include the removal of all items which would interfere with, or be incongruous to the complete construction and operation of the project, as stated in Part 1.1 Description of this section, within the construction 'limit lines' shown on the drawings.
- C. All adjoining property shall be carefully protected from damage. If the Contractor damages any adjacent property, he shall be responsible for replacement or restoration to original condition and approval of Architect and Owner at not additional cost to the Owner.
- D. All materials, other than those permitted by the specifications to remain on-site, salvaged during construction, or shown to remain on the Drawings, shall be properly removed from the site. The Owner reserves the right to claim ownership to any, all, or none of the existing demolished and/or salvaged materials, at any time during construction.
- E. All items to be disposed of off-site shall be done so legally. No burning of rubbish or debris will be permitted and large quantities of debris shall not be allowed to accumulate.
- F. comply with all conditions stated in Section 02010, Subsurface Conditions.
- G. Removal of: concrete rubble; debris; steel sheeting; wood piles; steel debris; reinforced concrete foundations, etc. as identified in Part 1.1 Description of this section, should be anticipated by the Contractor and included within his base bid. The majority of these items have been identified on the drawings. However, if the amount of these materials exceed the amounts stipulated to be included in the base bid and or shown on the drawings, then the Contractor shall, based on the unit prices of the bid, be compensated for this additional work.

3.2 EDGE CLEAN-UP

- A. Contractor shall remove all debris along entire river edge and 'hand place' broken concrete rubble free of reinforcing steel, excavated from site, as shown on drawings and under direction of the Architect.

3.3 WOOD AND STEEL PILINGS

- A. Contractor shall remove pilings, as shown on Drawings, by cutting pilings off where river bank or bottom meet pole. All pilings found during excavation for sea wall edge shall be removed by the Contractor. The Architect and Owner shall determine to what extent pilings shall be removed along river edge. Those to be removed have been shown on the Drawings.

SVM-8801
Mt. Elliott Park

02100-3

3.4 ARCHITECT AND OWNER APPROVAL

- A. The contractor shall clear, demolish and remove from site all items identified in Part 1.1 Description and shown on the Drawings to the approval of the Architect and owner.

*** END OF CLEARING AND DEMOLITION ***

**SECTION 02200
EARTHWORK**

PART 1: GENERAL

1.1 DESCRIPTION

A. In general, the work under this Section includes but is not limited to the following items:

1. On-site disposal of excavated materials and soils graded to elevations shown on Drawings.
2. Topsoil cover of disturbed areas.
3. Off-site disposal of excavated materials and soils.
4. Soil and stone subbase placement and backfilling for sheet piling edge.
5. Coordination of soil testing and reporting by a State of Michigan Registered Professional Engineer. Contractor is responsible for paying professional fees.
6. Soil erosion control measures.
7. Temporary fencing and barricades as necessary.

Important Note: Excavation and disposal of building foundations, concrete rubble, wood pilings, utility lines, etc., which will be encountered during excavation, is also described under the appropriately referenced Sections identified herein Part 1.2, Related Work Specific Elsewhere.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Subsurface Conditions, Section 02010
- B. Clearing and Demolition, Section 02100
- C. Hydro-Seeding, Section 02821

- D. Concrete Work and Reinforcement, Section 03300
- E. Summary of Work: Section 01010 - Part 1.13; Soil Erosion and Sedimentation Control.

1.3 QUALITY ASSURANCE

- A. The Contractor shall coordinate, and pay for, the services of a State of Michigan Registered Professional Engineer, who specializes in geotechnical engineering to insure that all testing required within these specifications is executed. Contractor will include all testing as a line item in his bid. The Geotechnical Engineer's responsibility will be to perform or have performed, under this direct observation and supervision, the monitoring of all earthwork and to perform all on-site and laboratory testing required within these specifications.

1.4 SUBMITTALS

- A. In compliance with Section 01300 submit the following:
 - 1. Samples, sources, suppliers and technical information for:
 - a. Stone subbase materials.
 - b. Soil stabilization fabric.
 - 2. The Contractor shall submit, from his geotechnical engineer proposed means and methods for construction sequence, equipment and shop drawings to be used for excavation, piling work and all soil erosion control measures. This information must be submitted to the Architect two weeks prior to beginning any Earthwork. At least two full weeks must be allowed for this review process.
 - 3. Soil test reports as required.

1.5 JOB CONDITIONS

- A. The Contractor should understand that record high water conditions of the adjacent Detroit River will exist during the construction of this work. (See Drawings for exact water elevations.)

- B. The Contractor shall use all means necessary to control dust on and near the Work. Thoroughly moisten all surfaces as necessary and as directed by the City Engineering inspector or Architect.
- C. Use all means necessary to protect all objects designated to remain. In the event of damage, make all repairs and replacements to the approval of the Architect and at no additional cost to the Owner.
- D. The potential for soil erosion is significant, therefore, the contractor shall employ all means necessary to prevent soil erosion during all work executed.

1.6 REFERENCE SPECIFICATIONS

- A. City of Detroit, Department of Public Works, "Standard Specifications for Paving and Related Construction", dated January, 1984, as amended to date, is incorporated by reference to applicable articles.
- B. State of Michigan, "Standard specifications for Construction", Michigan Department of Transportation, dated 1984, as amended to date, is incorporated by reference to applicable articles.
- C. When the work required by the Drawings and Specifications exceed any reference specifications, then requirements of the Drawings and Specifications shall supercede.

PART 2: PRODUCTS

2.1 EARTHWORK MATERIALS

- A. Excavated material to remain on site and not utilized for the top 3' of non-paved areas: Shall include all excavated material except piping materials, storage tanks, metal products or hazardous waste.
- B. Excavated materials to remain on site and utilized for the top 3' of the non-paved areas: Shall be those materials which, in the opinion of the Architect, are most suitable for sustaining plant growth and supporting future site development. the Architect will base his decision on information supplied by the geotechnical engineer, previous soil borings and observation during construction. Additionally, this excavated material that will remain on site

shall be free of any organic or deleterious material, as well as concrete, stone or rubble larger than three inches in diameter and no less than 80% clean soil.

- C. Walkway Drainage Base: 21 A limestone, compacted.
- D. Slag: 30A slag sand as manufactured by E.O. Levy Co. or approved equal.
- E. Concrete rip-rap: Shall be any concrete found on site which does not contain visible reinforcing steel. New concrete pieces shall be clean concrete rubble free of any visible reinforcing steel. (See Drawings for location)
- F. Utility trench backfill material: Shall be per the City of Detroit Water and Sewer Department Requirements.
- G. Topsoil shall be as specified below:
 - 1. A fertile, friable, sandy, loamy surface soil capable of sustaining vigorous plant growth without admixture of subsoil and free of stones, stumps, root, trash, debris, and other materials deleterious to plant growth.
 - 2. The pH range shall be 6.5 to 7.5. Topsoil that does not meet the pH range will be amended by the addition of pH adjusters approved by the Architect.
 - 3. Nutrient data to be given in parts per million (ppm) dry soil and shall equal or exceed the following levels:
 - a.

Nitrate Nitrogen (N)	20 ppm
Phosphate phosphorus (P)	20 ppm
Potassium (K)	80 ppm
Calcium (Ca)	600 ppm
Magnesium (Mg)	50 ppm
Zinc (Zn)	0.28 ppm
Iron (Fe)	5 ppm
Magnese (Mn)	1 ppm

4. Organic content shall not be less than 2 percent and not greater than 10 percent determined by loss through ignition.
5. Physical properties as follows:
 - a. Clay 15 to 20 percent
 - b. Sand 50 to 70 percent
6. Gradation: Percentage shall be based on dry weight of samples.

a.	Sieve Designation	Percentage Passing
	1/4" screen	100
	No. 10 U.S.S. mesh sieve	90-100
7. The electrical conductivity of the soil shall not exceed 7.5 millions per centimeter, or chloride salt content shall not exceed 700 ppm
8. The Sodium Absorption Ration (S.A.R.) shall not exceed 8.

2.2 SOIL TESTING

- A. All compaction requirements shall be determined with respect to the maximum modified proctor density of the material in accordance with ASTM D1557.
- B. Reports shall be GBC bound, 8-1/2" X 11", and on the letterhead of the geotechnical engineer.

2.3 EQUIPMENT

- A. Shall be of sufficient size, number, in first rate working condition and approved by Architect to complete the work on schedule.
- B. Equipment to process concrete found on site for shorewall subbase material may be erected on site at a location approved by Architect. Methods will be subject to Architect's approval.

2.4 SOIL EROSION CONTROL MEASURES

- A. All products as shown on Drawings, submitted by Contractor, and approved by Architect, and/or soil erosion control agent.

2.5 MISCELLANEOUS MATERIALS

- A. All other materials not specifically described herein but required for completed and proper installation of work shown on the Drawings shall be as selected by the Contractor and approved by the Architect.

PART 3: EXECUTION

3.1 GENERAL

- A. Contact 'Miss Dig' prior to beginning any work.
- B. All earthwork shall be properly executed as required to fully implement the design as shown on the Drawings, in strict compliance with applicable City of Detroit codes, regulations and specifications, industry standards, as approved by Architect and based on this understanding:
 - 1. Excavated materials of Part 2.1, Item A shall be placed beneath all "earth berms" shown on Drawings. The basic intent is to accommodate on site disposal of excavated materials which would otherwise be costly to remove from the site.
 - 2. This excavated material shall then be covered by a 3' minimum layer of materials found on site specified in Part 2.1, B, and graded to the elevations shown on the Drawings.
 - 3. Concrete rubble discovered during excavation which meet the requirements of Part 2.1, E, shall be placed along the shoreline as shown on the Drawings. Concrete which does contain reinforcement, brick or stone may be disposed of beneath the "earth berms" and properly covered.
- C. Contractor shall secure the services of a State of Michigan Registered Land Surveyor acceptable to Architect, for setting and establishing finish elevations. Carefully preserve all data and monuments set during the original and subsequent survey's and if displaced or lost, immediately replace to the approval of the Architect and at no additional cost to the Owner.
- D. Requirements for temporary shoring and bracing shall be in strict

compliance with applicable safety codes and regulations. Shop Drawings detailing all shoring and bracing shall be prepared by a State of Michigan Registered Civil Engineer.

- E. Contractor shall coordinate and contact the geotechnical engineer and Architect, as necessary to perform all testing required per these specifications.
- F. The Contractor shall be responsible for the live removal of all aquatic animals and mammals which may be encountered during construction, to a safe area of the Detroit, River. Method of capture and return to be approved by Architect.
- G. The Contractor is responsible for providing and maintaining all temporary fencing and barricades necessary to insure a safe and healthy working environment.

3.2 ENGINEERING INSPECTION AND CONTROL

- A. In this section the term "Engineer" refers to representative of the City of Detroit Engineering Department.
- B. The Contractor shall notify the Owner at least three (3) days prior to the commencement of earthwork operations.
- C. The Contractor shall furnish samples of sufficient quantity of any excavated materials which he may propose to use for on site earthwork to the Architect along with testing results for approval. No materials shall be used without prior approval from the Architect and Owner.
- D. The Geotechnical Engineer and Engineer will check the type of material, moisture and densities of the subgrade and compacted fill backfill for proper conformance with the specification requirements. All compaction requirements shall be determined with respect to the maximum modified proctor density of the material in compliance with ASTM D1557.
- E. Before placing fill, the Geotechnical Engineer will advise the Contractor with respect to the proper moisture content.
- F. The Contractor cannot add additional fill material until the fill material in place has been tested by the soils laboratory and approved the Engineer.

3.3 CONTROL OF WATER

- A. Use all means necessary to prevent erosion during construction and until permanent drainage and erosion control measures have been installed.
- B. Procedure for releasing ground water back to static condition shall be as recommended by Contractor and approved by Engineer.

3.4 EXCAVATION

- A. Immediately notify the Architect upon encountering an obstruction not shown or noted on the drawings and/or specifications. Bypass the obstruction after marking its location, move to another area and continue work. It shall be the decision of the Architect and Owner that shall determine whether or not the obstruction is shown or described within the drawings and specifications as included within the scope of work.
- B. Excavation for all work shown on the drawings shall be by standard industry methods as the Contractor may select. Excavation below the depth shown on the drawings and/or as determined by the Architect and geotechnical engineer, will be not be permitted, except for the removal of unsuitable material as determined by the Architect and Geotechnical Engineer. Unsuitable material is defined as rubbish, sod, wood, organic soils, coal, building debris or other deleterious material. Contractor shall backfill and compact all over excavated areas to the satisfaction of the Geotechnical Engineer. Compensation for unsuitable material removal and back-fill shall be based on unit prices submitted by the Contractor with is Bid Proposal.
- C. Excavation of subsoil materials shall continue to the finished levels as shown on the Contract Drawings and/or as determined by the Geotechnical Engineer. The slope of all excavated embankments shall be as shown on the drawings. Where excavated embankments are to be maintained on a temporary basis during construction operations, their slopes shall not be steeper than one and a half (1-1/2) horizontal to one (1) vertical or as directed by the Architect or Geotechnical Engineer.
- D. All excavated areas or other areas where compacted fill, backfill or subbase material are to be placed shall be inspected and approved by the geotechnical engineer before commencing any compaction of the existing subgrade, or placement and compaction of fill. The Contractor shall compact the areas to be filled using suitable equipment. Any areas which do not perform satisfactorily under the compaction as determined by the

geotechnical engineer, shall be excavated down to suitable soil. All unsuitable and disturbed soil below top of subgrade (after authorized excavation) shall be removed and replaced by the Contractor per unit prices of the Contract Bid Forms.

- E. Excavated materials classified as satisfactory soil material for on site use shall be properly stockpiled, where directed by the Architect until required for backfill and grading.

3.5 COMPACTION

- A. Compaction equipment used to compact existing subgrade and fill shall be as selected by Contractor and approved by Architect. In areas where vibratory compaction is inappropriate and will cause damage to the work, the Contractor shall select an alternated method for approval by the Architect.
- B. All required sub-grade and fill compaction shall be as follows: structural subbase and backfill material - not less than 98% maximum density each layer; rip-rap shore protection area - 80% maximum density, bearing slabs and walks - not less than 98% maximum density; sodded, planted and non-paved areas - 90% maximum density, earth berm with concrete rubble beneath, located at the far west side of the project area - 80% maximum density.
- C. Provide equipment capable of adding measured amounts of moisture to the soil material if determined necessary by moisture-density relation tests by geotechnical engineer. The moisture content in the soil material at the time of compaction shall be sure as to result in reasonably stable lifts. Soil material shall be moistened/dried by approved methods prior to continuing compaction operations.

3.6 BACKFILL AND FILL

- A. Backfill and fill shall consist of the placement of specified backfill and fill materials, in layers, in excavated and unexcavated areas to the proper elevations required to implement the design as shown on the Drawings.
- B. Excavations shall be backfilled as soon as the work permits after inspection, testing and approval by Architect. Remove all trash and debris, including form work and bracing, before backfilling.

- C. Approved backfill and fill materials shall be placed in lifts not exceeding eight (8") inches in thickness, loose measurement, and shall be built up in horizontal layers as nearly even as practicable to prevent thickness of lift from exceeding that specified. Within restricted areas, the thickness of each lift shall not exceed eight (8") inches, loose measurement.
- D. Each lift shall be compacted to achieve the required uniform density specified in Part 3.2, Compaction. The degree of compaction shall be checked by the geotechnical engineer and engineer and each successive lift shall not be placed or compacted until the lower layer has been inspection and approved by the geotechnical engineer. At least three (3) passes shall be made on each lift.
- E. Where, in the Geotechnical Engineer and Engineer's opinion, the stability of the compacted fill is questionable, the Contractor shall compact the area using suitable equipment and shall repair any areas of gross instability.
- F. No fill shall be placed on frozen subbase, nor shall any frozen materials be utilized a fill.

3.7 SUB-BASE INSTALLATION

- A. Carefully place the specified subbase materials in area as shown on the drawings, uniformly attaining the specified thickness and maximum density requirements required during backfill compaction. All subbase work shall be in compliance with City of Detroit specifications, Geotechnical Engineer and as approved by Architect.

3.8 GRADING

- A. Only on site materials that meet the requirements specified in Part 2. Products will be permitted to be used for on site grading operations.
- B. All excavated material to remain on site shall be evenly distributed throughout the entire site, do not concentrate particular soils in one location but rather blend excavated materials.
- C. Perform to the elevations shown on the drawings all grading and compaction and as required to properly drain all paved and non-paved areas.
- D. Surface fill for all paved and non-paved areas shall be smooth and even,

free of voids, and within plus or minus 1/10 foot of specified elevations shown on drawings.

- E. Completed graded areas shall be protected from traffic and erosion. Contractor shall repair and re-establish all disturbed grades as required to the satisfaction of the Architect, without additional cost to the Owner.
- F. Disturbed areas shall be capped with a minimum of 6" depth including clean earth from site and 2" top soil cover.
- G. Concrete rip-rap edge shall be as described in Part 2.1, D, Products. Contractor shall break up any surface exposed existing pieces larger than 3 square feet. Contractor to create a clean tight and uniform slope.

3.9 SOIL EROSION CONTROL MEASURES

- A. The Contractor Shall execute all construction work carefully to prevent soil erosion and control soil sedimentation. The Contractor shall follow all State and Local requirements. specifically, the requirements of the State of Michigan's Soil Erosion and Sedimentation Control Law of 1972, Implementing Act 347, as amended, those measures contained within these specifications, and all sketches contained within this Earthwork Section, 02200.

*** END OF EARTHWORK SECTION ***

**SECTION 02360
DRIVEN PILING**

PART 1: GENERAL

1.1 DESCRIPTION

- A. The work included under this Section includes the installation of driven steel piles through the existing rubble fill materials to bear on the underlying hardpan formation at the locations shown on the Contract Drawings.
- B. It is the intent of these specifications that the piles be driven through any obstructions encountered below the water table. The Contractor's equipment shall be capable of withstanding the stresses resulting from advancing the pile through the existing rubble fill.

1.2 SURVEY AND LAYOUTS

- A. The Contractor shall establish all lines, levels, grades, bench marks, and measurements incidental to the accurate layout of the work of this Contract. The Contractor shall maintain and protect all bench marks and batter boards against displacement and damage. All piles shall be cut off to a final cutoff elevation within one inch (1") of that elevation shown on the Drawing, and the Contractor shall be responsible for the necessary engineering to complete this portion of the work.

1.3 SITE INFORMATION

- A. The Contractor shall examine the site to ascertain the state thereof and the conditions under which the work is to be done.
- B. Logs of soil borings taken on the site and other related and pertinent information have been made available by the Owner.
- C. It is expressly understood that the Contractor assumes full responsibility for interpreting boring data and for the conclusions drawn from the information furnished to him and from his inspection of available information on the site. The Contractor shall familiarize himself with the geological formation of the area and the possibility of encountering water, gas, obstructions, or other conditions if the construction of the piling. No claim for extra compensation or extension of time will be considered because of groundwater or gas conditions different from those indicated by the borings or the Drawings.

PART 2: MATERIALS

2.1 STEEL PILES

- A. The rolled steel sections and splices shall conform to the standard specifications of the American Society for Testing Materials for steel bridges and buildings, Serial Designation A36, latest addition. Splices shall be made with full penetration butt welds and cover plates suitable for developing the full value of the pile in bending. They shall be designed and constructed to maintain the true alignment and position of the pile section. Pile splicer shall conform to the details attached. All welding and preparation for welding shall be done by approved methods using proper materials and qualified personnel. All splicing and welding shall be done to the complete satisfaction of the Engineer.
- B. Steel piles shall be W 14 x 342 or an Engineer approved equivalent.
- C. Each pile shall be provided with a rock point or reinforced tip to prevent damage to the pile material when driving through the concrete rubble.

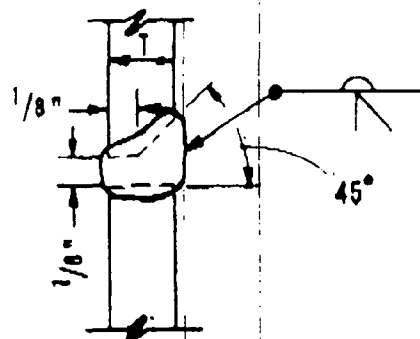
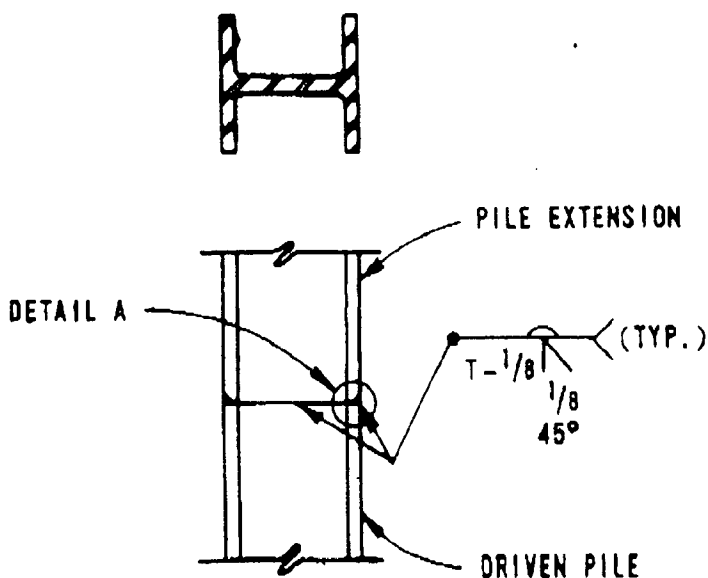
2.2 EQUIPMENT AND METHODS

- A. The Contractor shall provide suitable and adequate equipment for the performance of the work. Pile driver leads shall be rigidly attached and braced to the platform of the driving rigs. Free swinging leads shall not be permitted. The heads of piles or pile casings driven shall be cut square to their longitudinal axis and shall be protected against damage and deformation during driving by the use of an approved steel helmet having a socketed bottom which shall fit snugly as the case may be onto the butt of the pile. Pile hammer to be air, not diesel.
- B. The cushion block shall be supplied. The materials used shall dissipate heat rapidly enough to protect the cushion block against heat damage, yet they also shall transmit the maximum amount of energy from the hammer to the pile. The maximum height of the stack shall be 22 inches. The top plate in the stack shall be 2 inch thick round steel plate slightly smaller in diameter than the inside of the helmet chamber.
- C. Cushioning material shall be added as necessary to keep the hammer energy transmission at its maximum.

REVISED BY: D.D.A.
DRAWN BY: J.L.R.
CHECKED BY: W.D.B.

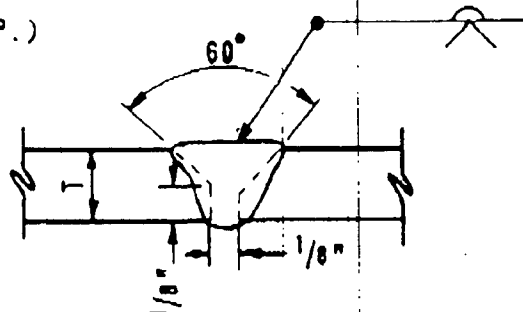
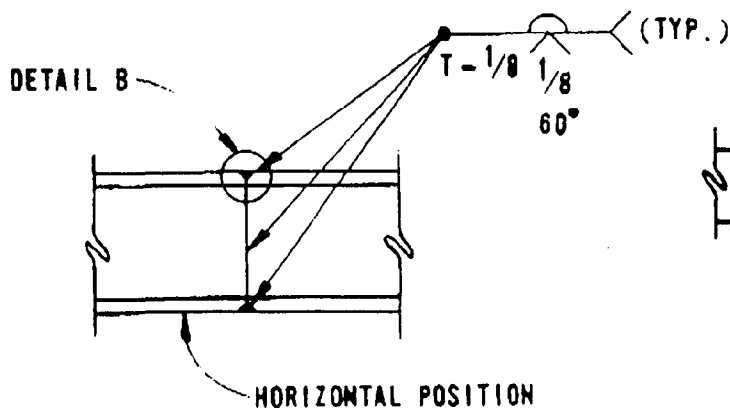
MICHIGAN DEPARTMENT OF STATE HIGHWAYS & TRANSPORTATION
H PILE SPlice
(FULL PENETRATION BUTT WELD)

ISSUED: 1/3/77
APPROVED: JCT



DETAIL A

BUTT WELD SPlice DETAIL



DETAIL B

NOTE: USE DETAIL A WHEN WELDING PILES IN PLACE (HORIZONTAL JOINT).
USE DETAIL B FOR WELDING WHEN PILE IS IN HORIZONTAL POSITION

- D. No cushion discs shall be introduced into the hammer during the time the pile is taking its final set, and blows shall not be counted until at least one minute of continuous operation after the introduction of such material. Frequent or continuous introduction of any material intended to cushion the hammer is prohibited.

PART 3: EXECUTION

3.1 PRE-EXCAVATION

- A. Large pieces of rubble which are present above the waterline at the design pile locations shall be moved to allow the pile to be initially located as shown on the Contract Drawings.

3.2 OBSTRUCTION

- A. Should obstructions be encountered in the rubble below the water table, it is the intent of these specifications that the pile be driven through these obstructions.

3.3 DRIVING

- A. Each pile shall bear on the lodgement till which overlays the bedrock. This strata is commonly referred to as hardpan.
- B. The Contractor shall provide a hammer assembly which is capable of driving the support piles through the existing fill and rubble deposits at the site. The hammer assembly used for driving each pile shall be a single acting air-steam hammer. As a minimum, the hammer used shall develop 50,000 foot pound or more energy. The final driving resistance shall be established by wave equation method prior to the start of work based on actual hammer and pile section provided by the Contractor, subject to approval by the Engineer.
- C. The maximum variation of any pile from its required location shall be 6 inches at its cutoff elevation. Rotation of the pile during driving may be encountered and should be evaluated by the Engineer.

*** END OF DRIVEN PILING ***

**SECTION 02500
SITE UTILITIES**

PART 1: GENERAL

1.1 DESCRIPTION

- A. In general, the work under this Section includes the following items:
 - 1. Installation of site sleeves and conduit for future service.
 - 2. Relocation and adjustment of existing miscellaneous utilities.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Sub-Surface Conditions, Section 02010
- B. Earthwork, Section 02200
- C. Concrete Work, Section 03300

1.3 PERMITS AND INSPECTION

- A. The work under this Section shall comply with all applicable codes and specifications of the City of Detroit Building, Public Utilities and the National Fire Codes of the National Fire Protection Association.
- B. After entering into the Contract, the Contractor will be held responsible to complete all work necessary to meet the requirements of said laws, codes. When the work required by the Drawings and Specifications exceeds said requirements, then the requirements of the Drawings and Specification shall rule. When a discrepancy arises between codes and Drawings or Specification the Contractor shall notify the Architect.
- C. All public utilities, including building connections, whether or not indicated on the Drawings which are adjacent to the construction but which, in the judgement of the Engineer Inspector, may be left in place, shall be maintained in such a manner as to secure the safety of the public and of adjacent structures or utilities.
- D. When the Contractor deems it unsafe, impractical, or impossible to construct the work without moving a utility, he shall so notify the Architect and the Engineer Inspector. Should the Engineer concur in the Contractor's opinion, the Contractor shall notify the utility concerned to have said utility moved accordingly. The work of moving said utility shall be without expense

to the Contractor.

- E. Active utilities shown on the Drawings shall be adequately protected from damage and removed and relocated only as indicated or specified.
- F. Active utilities not shown on the Drawings shall be protected or relocated in accordance with instruction of the Owner, and the contract price may be adjusted for such work.
- G. Inactive and abandoned utilities not shown on plans encountered in excavation and grading operations shall be removed, plugged or capped if required or as the Owner may direct the Contractor. Report in writing the location of such abandoned utilities. This work shall be an extra to the contract price. The contract price may be adjusted upon prior agreement between the Owner and the Contractor.

PART 2: PRODUCTS

2.1 GENERAL

- A. All materials and equipment furnished under this Section shall comply with the latest National Fire Protection Association Codes, IEEE, NEC, NEMA, AEIC and ANSI Standards for that class of equipment and shall comply with the applicable City of Detroit specifications, and shall be U.L. listed, and are subject to approval by the Architect.
- B. Backfill and bedding materials: Shall be as specified in Section 02200, Earthwork.

2.2 "BLANK" PIPE

- A. Shall be schedule 80 PVC, minimum 24" cover.

2.3 SITE DRAINAGE PIPE

- A. Shall be per ASTM standards, reinforced concrete pipe of the size and class shown on the Drawings.

2.4 CATCH BASIN MATERIALS

- A. Shall be per City of Detroit Standards.

PART 3: EXECUTION

3.1 GENERAL

- A. Work shall be installed in accordance with applicable codes, the approved shop drawings, and as shown on the Drawings.

3.2 SITE UTILITY SERVICE

- A. Provide and install "Blank" PVC sleeves for service in the location as shown on the Drawings and as approved by the Architect.

3.3 SITE DRAINAGE

- A. Provide and install drainage pipe for future drainage system as shown on the Drawings and as approved by the Architect.
- B. Place all pipe to the grades and alignment shown on the Drawings. the lines
- C. Lay pipe in strict accordance with manufacturer's recommendations, City of Detroit Standards, and Architect's approval.

3.4 EXISTING UTILITY ADJUSTMENT

- A. Raise all rim elevations of manholes, catch basins, electrical boxes and other existing structures to meet new finish grades of paving and/or lawn area. As shown on drawings.

*** END OF SITE UTILITIES ***

**SECTION 02930
SEEDING**

PART 1: GENERAL

1.1 WORK INCLUDED

- A. In general, the work under this Section, includes but is not limited to the following:

1. Seeding.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Earthwork, Section 02200

1.3 SUBMITTALS

- A. Submit the following:
1. Grass seed source, brand and variety.
 2. Fertilizer type and manufacturer.
 3. Mulch type and manufacturer.
 4. Mulch tie down and manufacturer.

PART 2: PRODUCTS

2.1 GRASS SEED

- A. The grass seed shall be a mixture of various types in the following proportions:

Rough Kentucky Bluegrass - 25%
Creeping Red Fescue - 5%
Perennial Ryegrass - 30%
Annual Ryegrass - 10%
Timothy - 20%
Barnyard - 10%

- B. All seed shall be of the highest quality and purity available and shall be fresh, clean, new-crop seed.

- C. Weed seed content shall not exceed 0.30 of 1%.
- D. All brands to be submitted by the Contractor and then reviewed by the Architect.

2.2 FERTILIZER

- A. Fertilizer for hydro-seeding to be approved, standard commercial brand complete, dry and free-flowing in character, with a guaranteed analysis shown on each bag, testing not less than 12-12-12.

2.3 MULCH

- A. Shall contain a water soluble, non-toxic green dye and a non-toxic dispersing agent
- B. Shall be natural cellulose wood fiber product such as "Silva-Fiber" by Weyerhaeuser Company or "Conwed" by Agronomy Products, Inc. No paper mulch will be allowed.

2.4 WETTING AGENT

- A. Shall be water.

2.5 MULCH TIE DOWN

- A. Shall be "Landtrak" or "Curasol" by American Holschst Corp., or "Teratach" by Dow Chemical Company.

PART 3: EXECUTION

3.1 MIXING

- A. An aqueous mixture of the following material and proportions shall be thoroughly mixed by agitation to uniform suspension in a hydro-seeding tank:

Seed Mixture	250 lbs/acre
Fertilizer	450 lbs/acre
Mulch	1500/lbs/acre
Mulch Tie-Down	132 lbs/acre
Wetting Agent	As required

3.2 PROTECTION

- A. Prior to commencement of spraying operations, protect walks, buildings, walls or other existing features from the hydro-seeding spray with polyethylene or other suitable materials and means. Any spray material which should come in contact with one of the aforesaid items shall be thoroughly cleaned off the item.

3.3 APPLICATION

- A. No hydroseeding shall be installed prior to Owner and Architect approval of grading.
- B. Immediately before seeding, scarify, loosen, float and drag topsoil as necessary to bring it to the proper condition. Remove foreign matter larger than 2" in diameter. One of the basis of acceptance shall be no bare spots greater than one square foot of area.
- C. The hydro-seed mixture shall be constantly agitated from the time of mixture to the time of application.
- D. The mixture shall be sprayed uniformly, avoiding misses and overlap, at the rate of 1500 lbs of mulch/acre.

3.4 ACCEPTANCE

- A. The Contractor shall submit a request for inspection when the grass is firmly knit and after at least two mowings.
- B. Maintenance and mowing required, keeping turfgrass height at approximately 1-1/2 inch height when mowed and cutting as required but allowing grass to grow no greater than 3 inches in height.
- C. Edge all walk and plaza areas and trim along all wall, trees, etc., each mowing.
- D. The Contractor shall maintain all lawn areas until Thanksgiving day 1991 maintenance includes watering through germination and watering as necessary beyond that, mowing, trimming, weed control and pest control applications, fertilizing and other maintenance necessary to keep the grass in a thriving, first quality condition. Bare spots larger than one foot square will be a basis for rejection.
- E. Upon acceptance by the Architect and Owner of the Hydro Seeded area the contractor will have no further responsibility for maintenance of his work.

SVM-8801
Mt. Elliott Park

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3.5 CLEANING

- A. Excess and waste material shall be removed from the site. All pavements shall be left broom cleaned..

*** END OF SEEDING ***

**SECTION 03300
CONCRETE WORK AND REINFORCEMENT**

PART 1: GENERAL

1.1 DESCRIPTION

- A. The work under this Section generally includes all form work, concrete work and reinforcement for the following:
 - 1. Cast-in-place concrete walkways.
 - 2. Cast-in-place concrete footings.
 - 3. Cast-in-place concrete seawall cantilevered deck.
 - 4. Concrete columns for pile encasement

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Subsurface Conditions, Section 02010
- B. Earthwork Section, 02200

1.3 SUBMITTALS

- A. In compliance with Section 01300, submit the following:
 - 1. Concrete mix design for all types of concrete proposed.
 - 2. Shop Drawings of reinforcing bars in compliance with ACI 315.
 - 3. Accompanying number (2), steel producer's certificates of mill analysis, tensile and bend tests for reinforcing steel.
 - 4. A procedure and schedule for constructing all concrete work. this procedure and schedule must be reviewed by the Owner and Architect prior to commencing construction.
 - 5. Aggregates to be used in the exposed aggregate concrete mix.
 - 6. Expansion joint materials, including sealant color chart.

7. Material specifications and testing information for all miscellaneous hardware.
8. Method of executing exposed aggregate finishing.
9. Shop Drawings and materials for slip dowels.

1.4 JOB MOCK-UP

- A. Construct a mock-up sample minimum area 8'x 13' of the exposed aggregate concrete and plain finish walkway surface and the concrete columns which shall include typical jointing, finish, texture and color required in actual construction, 30 days prior to commencing work.
- B. Make all mock-up samples as necessary until acceptance by the Architect. The selected mock-up shall be matched throughout the project and may be constructed as part of the work. (location for mock-up as shown on drawings).

1.5 TESTING

- A. Cooperate and coordinate all services of a qualified testing laboratory satisfactory to the Owner and the Architect. The cost for all testing in this Section of the work shall be the responsibility of the Contractor.
- B. Two (2) cylinders shall be taken for each pour of the grade beams, and columns, and tested at 7 days and 28 days. Test cylinders shall be taken at a minimum rate of 2 per 1500 square feet of flatwork or 2 per days pour which even is greater. Testing shall meet the requirements of ASTM C-495, except that test specimens shall not be oven dried prior to compressive testing.
- C. Test results (3 copies each) shall be forwarded from the testing laboratory directly to the, Architect, Contractor, and Owner.
- D. Should any test results prove unsatisfactory, the Contractor shall provide at least two cores from the area which failed to comply with the specifications, at his cost.
- E. Failure of core results will require removal and replacement of areas failing to meet specifications entirely at the Contractor's cost including all associated delay costs.

- F. The Contractor shall notify the Architect and testing service 3 days prior to starting the various phases of the concrete work.

1.6 REFERENCE SPECIFICATIONS

- A. City of Detroit, Department of Public Works, "Standard Specifications for Paving and Related Construction", dated January 1984, as amended to date, is incorporated by reference to applicable articles.

PART 2: PRODUCTS

2.1 WATER, CEMENT, FINE AGGREGATE, COARSE AGGREGATE, ADMIXTURES

- A. For all concrete work shall be as specified in Article 4.11 and 4.111 of the City of Detroit Standard Specifications and as superceded by the following requirements:
- B. Concrete work shall be as specified in The City of Detroit Standard Specifications and as superceded by the following requirements:

1. Concrete Mix

Sand:	2NS Sand, ASTM C-33	1350	pounds
Coarse Aggregate:	6AA Limestone France Stone ASTM C-33	1680	pounds
Cement:	Type 1, ASTM C150	588	pounds
Water:	City Tap Water	31.5	gallons
Admixture:	ASTM C260, Darex A.E.A. by W.R. Grace and Co.	11.3 oz./cu.yd.	

2. Exposed Aggregate Concrete Mix

Sand:	2NS Sand, ASTM C-33	1080	pounds
Coarse Aggregate:	6AA Pebble ASTM C-33	1 9 8 0	pounds
Cement:	Type 1, ASTM C150	588	pounds
Water:	City Tap Water	31.5	gallons
Admixture:	ASTM C260, Darex A.E.A.	10.6	oz./cu. yd

* Pebble, washed, submit sample

2.2 CURING AND SEALER

- A. Ashford Formula by Cure Crete Chemical Co. applied in strict accordance with the directions of the manufacturers, and Michigan Protective Coating
Tele: 535-7878.

2.3 EXPANSION JOINT MATERIAL

- A. Provide resilient and non-extruding type premolded bituminous impregnated fiberboard units complying with ASTM D1751, FS-HH-F-341, Type 1 and ASSHO M213.
- B. Fibre: W.R. Meadows, Inc. Sealight.
- C. Dowels shall be as specified in Article 5.11.2. unless otherwise noted.

2.4 JOINT SEALANT

- A. Joint sealant shall be a one part polyurethane sealant in a limestone color. Material shall conform to Federal Specifications TT-S-0023oc. Material shall be Sikaplex Sealant or equal.
- B. Sealant Backer Rod: Compressible rod stock of polyethylene foam, polyethylene jacketed foam, butyl rubber foam, neoprene foam or other flexible, permanent, durable non-absorptive material as recommended for compatibility with sealant by sealant manufacturer.
- C. Joint Primer/Sealer: Provide type of joint primer/sealer as recommended by sealant manufacturer for joint surfaces to be sealed.
- D. Bond Breaker Tape: Polyethylene tape or plastic as recommended by sealant manufacturer to be applied to sealant contact surfaces where bond to substrate of joint filler must be avoided for proper performance of sealant. Provide self-adhesive tape wherever possible.

2.5 CONTROL JOINTS

- A. 1/8" x 1-1/2" saw cut.

2.6 FORMWORK

- A. Shall be wood or steel of sufficient strength to resist springing during concrete place operations and shall comply to ACI-347.
- B. Shall be straight and free of warp. A form which varies more than 1/8" in 10" in either vertical or horizontal directions will not be permitted.
- C. Wood forms shall be No. 2 common or better lumber, dressed on one side, not less than 3" minimal thickness, and of a width equal to not less than the

full depth of the concrete at the edge. Plywood shall not be less than 5-ply, 5/8" thick.

- D. Form ties shall be commercially fabricated type designed for specific wall thickness required. After removal of external portion no metal shall remain closer than 1" from surface. Spreader cones on ties shall not exceed 1" in diameter. Do not use wire ties and wood spreaders.
- E. Form release agents shall be non-oil base materials which will not stain or cause imperfections on the concrete surface.

2.7 FORM LINER

- A. Formliner for textured concrete surfaces may be constructed from sheet metal, is available from Alva Greer and Sons, Tel. 776-6110, 16925 Cutler Ct., Fraser, Michigan 48026, reference Chene Park job.
- B. Submit for approval to Architect.

2.9 SURFACE RETARDANT

- A. Exposed aggregate finish surface shall be exposed by use of surface retardant "Preco EAC - S" or approved equal.

2.10 REINFORCEMENT

- A. Resteel: All reinforcing bars, dowels and ties shall be epoxy coated and conform to ASTM A-165, Grade 60 as called for on the Drawings. Steel wire shall comply with ASTM A-82. Welded wire fabric shall conform to ASTM-A185.
- B. Supports for reinforcement: Bolsters, chairs, spacers and other devices for spacing, supporting and fastening reinforcement in place shall be epoxy coated and as indicated below:
 - 1. Use wire bar type supports complying with CRSI recommendations, unless otherwise indicated. Do not use wood, brick and other unacceptable materials.
 - 2. For slabs on grade, use supports with sand plates or horizontal runners where base material will not support chair legs.

3. For exposed to view concrete surfaces, where legs of supports are in contact with forms, provide supports with epoxy coated or plastic coated legs.
- C. Fabricate reinforcing bars to conform to required shapes and dimensions, with fabrication tolerances complying with CRSI Manual. In case of fabricating error, do not rebend or straighten reinforcement in a manner that will injure or weaken the material.
- D. Unacceptable materials: Reinforcement with any of the following defects will not be permitted in the work.
 1. Bar lengths, depths and bends exceeding specified fabrication tolerances.
 2. Bends or kinks not indicated on the Drawings or final shop drawings.
 3. Bars with reduced cross-section due to excessive rusting or other cause.
- E. All reinforcing steel shall be continuous and shall have a minimum 36 bar diameter class "C" lap. All materials shall conform to City of Detroit Standard Specifications 5.11.2 for Resteel Reinforcement.
- F. Design, fabrication and erection of steel to be per ACI Code and CRSI Recommendations.
- G. All reinforcement shall have a minimum of 1.5" cover.

2.10 NONSHRINK GROUT

- A. Nonshrink grout shall be a ready-to-use non-metallic aggregate product requiring only the addition of water at the job site, and shall have the following attributes.
 1. Be capable of producing a flowable grouting material having no drying shrinkage or settlement at any age.
 2. The compressive strength of grout (50 mm or 2" cubes) shall be not less than 5,000 psi at age seven days, and 7,500 psi at age 28 days.
- B. Store, mix and place the nonshrink grout in strict accordance with manufacturer's recommendations as approved by the Architect.

PART 3: EXECUTION

3.1 GENERAL

- A. Concrete shall not be placed during rain, sleet or snow and surfaces shall be protected from damage from same.
- B. Cold weather requirements: These shall conform to ACI 306 and to the following:
 - 1. When air temperature is, or is expected to fall, below 40 degrees Fahrenheit, all water and aggregates shall be heated before mixing as necessary to obtain a mixture temperature of at least 60 degrees Fahrenheit, not over 80 degrees Fahrenheit.
 - 2. Use of anti-freeze agents and chemical admixtures to accelerate setting during cold weather is not permitted.
 - 3. Frozen materials or materials containing ice shall not be used. All concrete, reinforcement, forms, fillers and ground against which new concrete will be placed shall be free from frost.
 - 4. When air temperature is, or is expected to fall below 40 degrees Fahrenheit, adequate means shall be provided for maintaining a temperature of not less than 70 degrees Fahrenheit for three (3) days of 50 degrees Fahrenheit for five (5) days in the area where concrete is being placed and after placing.
 - 5. Heating devices shall be oil fired or butane blower type with diffusers to spread heat uniformly. Temperature of air at surfaces of concrete shall not exceed 80 degrees Fahrenheit. Start heating units a sufficient time before placing concrete to warm forms and space. Heaters shall be attended at all times.
 - 6. Rapid dry out of concrete due to overheating and sudden changes in temperature shall be avoided.
- C. Hot weather requirements: These shall conform to ACI 305 and to the following:
 - 1. Ingredients shall be cooled before mixing to maintain concrete temperature below 90 degrees Fahrenheit at time of placement.

2. Wet forms thoroughly before placing concrete.

Concrete delivered to the site and allowed to overheat in the truck prior to placement are grounds for the rejection of the load which shall be removed from the site at no cost to the Owner.

- D. Concrete must be placed within one hours time from point of batching at the concrete plant. Contractor shall schedule his pours accordingly.

3.2 REINFORCEMENT

- A. Store reinforcement at the job site in a manner to prevent damage and accumulation of dirt and excessive rust.
- B. Comply with the specified standards for details and methods of reinforcement placement and supports, and as herein specified.
- C. Epoxy coat all reinforcing steel.
- D. Position, support and secure reinforcement against displacement by formwork, construction of concrete placement operations. Locate and support reinforcing by metal chairs, runners, bolsters, spacers and hangers as required. Placing, spacing tolerances and protection shall comply with the requirements of ACI-318.
- E. Place reinforcement to obtain the minimum coverage for concrete protection. Arrange, space and securely tie bars and bar supports together with 16 gauge wire to hold reinforcement accurately in position during concrete placement operations. Set wire ties so that twisted ends are directed away from exposed concrete surfaces.
- F. Install welded wire fabric in as long lengths as practicable. Lap adjoining pieces at least one full mesh.
- G. Provide sufficient numbers of supports and of strength to carry reinforcement. do not place reinforcing bars more than 5 cm (2") beyond the last leg of any continuous bar support. Do not use supports as bases for runways for concrete conveying equipment and similar construction loads.
- H. Splices: Provide standard reinforcement splices by lapping ends, placing bars in contact, and tightly wire tying.

- I. Examine the substrate, formwork and the conditions under which concrete reinforcement is to be placed, and correct conditions which would prevent proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected. Reinforcement shall be located as shown on Drawings. Concrete shall not be placed until reinforcement has been inspected by the Owner or Architect.

3.3 INSTALLING FORMWORK

- A. Forms and screeds shall be accurately set to the lines and grades indicated on the Drawings.
- B. Securely stake formwork to prevent settlement or movement during placement of concrete.
- C. Forms shall remain in place until the concrete is safely self-supporting and shall be thoroughly cleaned and oiled, as necessary, with a non-staining oil before concrete is placed against them.
- D. Provide formwork complete with centering, shoring, molds, and liners where required to produce textured effect on concrete surfaces.
- E. All formwork where concrete will be shown exposed shall be constructed to avoid fins, irregularities and other blemishes. Forms shall be mortar tight.
- F. Forms may be re-used except where noted, provided strength is unimpaired during removal and all surfaces are thoroughly cleaned and reconditioned and all edges are true.
- G. Give ample notice to allow for sufficient time for other trades to furnish and/or place embedded items.
- H. Set all required steel frames, angles, grilles, bolts, inserts and other such items required to be anchored in the concrete before the concrete is placed. Anchor bolts and inserts shown or specified to be set in concrete shall be accurately located to template.
- I. Provide temporary bracing or shoring as required to fully insure the stability of the structure until the need no longer existing for their presence.
- J. Prior to placing concrete, notify Architect 24 hours in advance for inspection and approval of formwork and reinforcing steel. All embedded items shall

be in place for this inspection. Note: Approval from Architect does not remove Contractor responsibility for all embedded items shown on the Drawings or as specified herein.

3.4 PREPARATION FOR CONCRETE PAVING

- A. Insure surfaces against which concrete is to be placed are free from debris, loose materials, standing water, snow, ice and other deleterious substances.
- B. Remove standing water without washing over freshly deposited concrete.
- C. Formwork shall be complete, reinforcement placed and secured, embedded items installed, and work by other trades finished.
- D. Remove hardened concrete, debris and foreign materials from the interior of formwork and from conveying equipment.
- E. Insure that reinforcement and other embedded items are securely in position.
- F. Where concrete is placed on ground, all loose earth shall be removed and excavation shall be level. Concrete shall not be placed in water or on frozen or loosened ground.
- G. When the subgrade material is semi-porous and dry, immediately prior to placing concrete, sprinkle subgrade with water as required to eliminate suction.
- H. When the subgrade material is porous, seal the subgrade surface by covering the surface with either waterproof paper or polyethylene sheet of 4 mil thickness: This may also be used over semi-porous and dry subgrade surface in lieu of water sprinkling.

3.5 CONCRETE FOOTINGS

- A. Footings are designed for 1000'psf soil bearing capacity. If soil of this capacity is not found at the elevations indicated, footings shall be lowered until soil of the required bearing capacity is found. Verify foundations soil pressure in field by a soils laboratory.

3.6 HANDLING AND STORAGE OF CONCRETE MATERIALS

- A. Shall be in accordance with City of Detroit Standards.

3.7 CONCRETE PROPORTIONING AND MIXING

- A. Water per sack of cement, including moisture in the aggregate shall not exceed six gallons.
- B. The concrete mix designs shall have a minimum compressive strength of 4,000 psi at 28 days with 6% + - 1% entrained air where exposed to weather.
- C. The minimum cement content of this concrete shall be 6-1/4 standard 94# sacks of cement per cubic yard of concrete.
- D. Materials shall be accurately measured and thoroughly mixed until there is uniform distribution of materials and mass in uniform in color and homogeneous.
- E. The slump shall not exceed 3-1/2".
- F. Air entraining shall comprise not less than 5% nor more than 7% of its total concrete volume.
- G. Retempering is not acceptable.
- H. Ready mixed concrete may be used provided it is mixed and delivered in accordance with "Specifications for Ready-Mixed Concrete", ASTM C-94 and provided it meets the requirements for air entrainment set forth herein.
- I. No frozen, cubed or lump materials shall be used.

3.8 CONVEYING CONCRETE

- A. Concrete shall be handle from the mixer to the place of final deposit as rapidly as practicable by methods which will prevent separation or loss of the ingredients and in a manner which will insure that required quality of concrete is obtained.
- B. Conveying equipment and operations shall conform to applicable recommendations of ACI-304.

- C. Chutes shall be metal or metal lined. Maximum drop from chutes shall be there (3) feet. Minimum chute slope shall be 1:2 (vertical/horizontal). An elephant trunk or similar style placement device shall be used in walls over 3 feet in height.

3.9 PLACING CONCRETE

- A. Prior to placement, inspect and complete the formwork installation, reinforcing steel, and items to be embedded or cast-in, including all utility conduits, as shown on the Drawings or detailed in the Shop Drawings. Notify other crafts to permit the installation of their work; cooperate with other trades in setting such work.
- B. Coordinate the installation of joint material with placement of forms and reinforcing steel.
- C. Comply with ACI-304.
- D. Deposit concrete continuously and as rapidly as practicable until the unit of operation is complete.
- E. Placing shall be so regulated that pressures of wet concrete shall not exceed those used in formwork design.
- F. Fill forms completely and take all precautions to prevent voids and surface defects. During and immediately after depositing the concrete, vibrate with suitable tools and requirement, and work it around the reinforcement, inserts and into corners of forms to prevent voids, pockets or honeycombs. Tapping or other external vibration will not be allowed.
- G. Check top of poured walls or other work where face of wall will be visible in its complete state. Float to level planes and straight edges.
- H. Placing concrete slabs:
 - 1. Deposit and consolidate concrete slabs in a continuous operation within the limits of construction joints, until the placing of a panel or section is completed.
 - 2. Consolidate concrete during placement by use of the specified equipment, thoroughly working concrete around the reinforcement and into corners.

3. Consolidate concrete in remainder of slabs by vibrating bridge screeds, roller pip screeds, or other methods acceptable to the Architect.
4. Limit the time vibrating consolidation to prevent bringing and excess of fine aggregate to the surface.
5. Bring slab surfaces to the correct level with a straight edge, and then strike off.
6. Use bullfloats or darbies to smooth the surface, leaving it free from bumps and hollows.
7. Do not sprinkle water on the plastic surfaces; do not disturb the slab surfaces prior to start of finishing operations.

3.10 INSTALLATION OF EXPOSED AGGREGATE FLATWORK

- A. Contractor shall submit a written proposed detail step-by-step method to the Architect for approval as part of the submittals. **THE METHOD OF EXPOSED AGGREGATE INSTALLATION REFERRED TO AS "SEEDING" WILL NOT BE PERMITTED.**
 1. Deposit and consolidate concrete slabs in a continuous operation within the limits of construction joints, until the placing of a panel or section is completed.
 2. Consolidate concrete during placement by use of the specified equipment, thoroughly working concrete around the reinforcement and into corners.
 3. Bring slab surfaces to the correct level with a straight edge, and then strike off.
 4. Use bullfloats or darbies to smooth the surface, leaving it free from bumps and hollows.
 5. Do not sprinkle water on the plastic surfaces; do not disturb the slab surfaces prior to start of finishing operations.
- B. The concrete shall be placed, leveled and floated in normal fashion.

- C. Shortly following floating, retarder may be sprayed or brushed over the surface following manufacturers specifications.
- D. Immediately after the slab has been screened and darbied, the aggregate shall be 'washed' in a uniform manner until entire surface is exposed.
- E. A thorough 'exposing' of the embedded aggregate shall be performed until all aggregate is left just above the surface, leaving no holes or openings in the surfaces.
- F. The surface shall then be brushed and washed until all the aggregate is exposed and free of any cement film.

3.11 JOINTS

A. Expansion Joints

- 1. Shall be provided as shown on the Drawings at all points of contact between slabs on ground.
- 2. Shall be 1/2" thickness unless otherwise indicated and run the full length of slab. Joint material shall be kept 1/2" below finish surface to allow for caulking.

B. Construction Joints

- 1. Provide construction joints as required to terminate pour, but only at expansion joints shown on Drawings.
- 2. Locate and install construction joints which are not shown on the Drawings, as not to impair the strength and appearance of the structure. Coordinate with Architect.
- 3. Reinforcement shall continue through the joint.
- 4. A minimum of 24 hours shall elapse between previously placed and fresh concrete at construction joints.
- 5. Immediately before continuing concrete placing at a construction joint, concrete shall be roughened, thoroughly cleaned, dampened and spread with neat portland cement grout.

C. Control Joints in Slabs

1. Control joints are to be laid out with chalk and approved by the Architect before any saw cuts are made.
2. Control joints are to be saw cut and approved by the Architect after slab has been placed and should be at least $\frac{1}{3}$ the depth of the slab and $\frac{1}{8}$ " wide.

3.12 FINISHING

- A. Concrete walking surfaces shall be carefully and uniformly broomed with a fine bristled brush in one direction to match existing. Brush direction shall be radially from the center of the circles and as approved by the Architect.
- B. Edges shall be rounded with $\frac{1}{4}$ " radius. Such edging shall be carefully done to produce an evenly round edge, true to both line and grade. Neat cement shall not be used as a dryer to facilitate the surface finishing.
- C. Rough form finish will be accepted for formed concrete surfaces not exposed to view in the finished work.
- D. Smooth concrete surface in all areas noted to receive a smooth rubbed finish shall be produced on freshly hardened concrete which has been cast against plywood forms and will be left exposed to view. All necessary pointing shall have been done immediately after forms have been removed, and rubbing shall be completed no later than the following day. Surface shall be wetted and rubbed with carborundum stone until a uniform color and texture are produced and the surface is free of any marks and lines. Also see 3.13 C.
- E. Tops of walls, horizontal offsets, and similar unformed surfaces occurring adjacent to formed surfaces shall be struck smooth after concrete is placed and shall be floated and steel troweled to a texture reasonably consistent with that of formed surfaces. Final treatment of formed surfaces shall continue uniformly across unformed surfaces.

3.13 REMOVAL OF FORMS

- A. Formwork may be removed as soon as concrete has hardened sufficiently to resist damage from removal operations and requirements of the item on Curing and Protection are met.

- B. Form removal and reshoring system and operations shall be planned in advance and shall be approved by the Architect.
- C. Reshoring shall be performed in such a manner and sequence that large areas of new construction will not be required to support their own weight and no injury to the concrete can occur. While reshoring is underway, superimposed loads shall not be permitted.
- D. Reshores shall be straight, true and plumb. Special care shall be taken installing wedges or jacks to insure tight and concentric loading. The system of reshores shall be adequately braced.

3.14 REPAIR OF SURFACE DEFECTS

- A. Concrete work which has not been installed as indicated on the Drawings of which is out of line or level, or has defective surfaces, shall be considered not to conform to the intent of these specifications and shall be removed unless the Architect grants permission to patch defective areas. Permission to patch any special area shall not be considered a waiver of the Architect's right to required complete removal of the defective work if patching does not satisfactorily restore quality and appearance of surface.
- B. Immediately after stripping forms, inspect surfaces, cut ties, remove fins. or projects, fill tie holes and patch any honey-combed spots.
- C. Patching shall be done before concrete is thoroughly dry. Patching shall be with the same materials and proportions as the concrete except coarse aggregate shall be omitted. On exposed work, white Portland cement shall be substituted for a part of grey cement to produce a color matching that of the surrounding concrete, as determined by a trial patch. Dampen the area to be patched. Add only enough water to permit working mortar into defects, strike off, and allow to set. Rub with carborundum to bring surface to same texture, color, etc. as adjacent surfaces.

3.15 CURING AND SEALER

- A. All freshly placed concrete shall be protected from premature drying and excessively hot or cold temperatures, and shall be maintained with minimal moisture loss at a relatively constant temperature for the period of time necessary for hydration and proper hardening.
- B. Methods of Curing

1. Vertical Surfaces: The Curing compound shall be sprayed onto the vertical surfaces in strict accordance with the rate per the manufacturer's recommendations. Three applications shall be made in approximately 30 minutes time.
 2. Horizontal flat surfaces and ramps shall have the curing material applied while the "green" concrete is still wet, within an hour of finishing concrete. Contractor shall continuously apply material over a thirty minute time frame so as to keep concrete surface wet in accordance with the manufacturer's recommendations.
 3. Formed surfaces: Steel forms heated by the sun and all wood forms shall be kept wet. If forms are to be removed during the curing period, one of the above during applications shall be employed immediately. Vertical surfaces shall be rubbed as called for prior to application of curing compound.
- C. Duration of Curing: Curing shall continue until the cumulative number of days or fractions thereof, not necessarily consecutive, during which the temperature of the air in contact with the concrete is above 50 degrees Fahrenheit has totalled seven (7) days. For high early strength concrete, this total shall be three (3) days. Rapid drying at the end of the curing period shall be prevented.

3.16 MISCELLANEOUS CONCRETE WORK

- A. This trade shall fully cooperate with other trades to provide and install required footing foundations. This work as shown on the Drawings includes but is not limited to the following items of work:
1. All foundation for steel work.

3.17 PROTECTION

- A. During the curing period, concrete shall be protected from damage, particularly load stress, shock and excessive vibration.
- B. All surfaces shall be protected from damage caused by construction equipment, materials or methods and by rain, water or defacement.

- C. All placed concrete shall be protected from damage from all causes. Sufficient covering material shall be kept available to protect the fresh concrete from pitting and washing in case of rain. No one shall be allowed to work on or otherwise disturb the concrete until it has thoroughly set.
- D. Any settlement, damages, defacement or defects occurring in any portion of the work shall be repaired or that portion of the work replaced, as directed by the Architect prior to and as a condition of final acceptance.
- F. Protect concrete paving from pedestrian and construction traffic for a period of three (3) days after pouring.

3.18 QUALITY OF WORKMANSHIP

- A. In the event any concrete work fails to meet specifications based on testing requirements or fails to meet appearance standards as established by the job mock-up sample, it shall be subject to removal and replacement at the Contractor's cost as directed in writing by the Architect.

3.19 GUARANTEE

- A. The Contractor shall guarantee the concrete work for a period of two (2) winters after installation. Any concrete which shows evidence of spalling or other defects shall be repaired or replaced to the satisfaction of the Architect at no cost to the Owner.

*** END OF CONCRETE WORK AND REINFORCEMENT ***

**SECTION 05100
STRUCTURAL METAL FRAMING**

PART 1: GENERAL

1.1 DESCRIPTION

- A. The work under this Section includes all structural metal framing as shown on Drawings including steel columns, beams, joists, bearing plates, angles and miscellaneous metal as necessary for a complete job.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Metals Fabrications, Section 05500
- B. Painting, Section 09900 (shop coat included)

1.3 QUALITY ASSURANCE

- A. Codes and Standards
 - 1. Comply with the provisions of the following, except as otherwise indicated:
 - a. AISC "Code of Standard Practice for Steel Buildings and Bridges".
 - b. AISC "Specifications for the Design, Fabrication, and Erection of Structural Steel for Buildings" including "Addenda" and Supplements thereto as issued.
 - c. AISC "Specifications for Structural Joints using ASTM A 325 or 490 Bolts" approved by the Research Council on Riveted and Bolted Structural Joints of the Engineering Foundation.
 - d. AWS D1.1 "Structural Welding Code".
 - e. SDI "Basic Design Specifications".
 - f. ASTM "American Society of Testing and Materials".

1.4 SUBMITTALS

- A. Comply with pertinent provisions of Section 01300.

B. Shop Drawings:

1. Submit Shop Drawings showing complete details and schedules for the fabrication and shop assembly of members including metal decking.
 - a. Architect's review of Shop Drawings will be for general considerations only. Compliance with requirements for materials, fabrication, and erection of structural steel is the Contractor's responsibility.

PART 2: PRODUCTS

2.1 MATERIALS

- A. Rolled Steel Plates, Structures Steel, Shapes, and Bars: ASTM A36.
- B. Hot Formed Steel Tubing: ASTM A501.
- C. Cold-Formed Steel Tubing: ASTM A500, Grade B.
- D. Unfinished Bolts and Nuts: ASTM A307, Grade A.
- E. Steel Pipe: ASTM A53, Type E or S, Grade B.
- F. High-Strength Bolts and Nuts: ASTM A325 or A490.
- G. Electrodes for Welding: Comply with AWS Code, E70XX Series.
- H. Galvanized Metal Deck Units: ASTM A446, Grade A: Finish ASTM A525, A60.
- I. Sheet Metal Accessories: ASTM A526, commercial quality, galvanized.
- J. Metallic Non-Shrink Grout: Corps of Engineers CRD_C588, Type M, premixed factory-packages ferrous aggregate grouting compound.
 1. Products offered by manufacturers to comply with the requirements include the following:
 - a. Embeco: Master Builders
 - b. Ferrolith G: Sonneborn

- c. Irontox: Toch Brothers
 - d. Kemox C: Sika Chemical
 - e. Vibra-Foil: W.B.Grace
- K. Adhesive Anchors: Adhesive anchors shall consist of all thread anchor rod, nut, washer, and adhesive capsule. Anchor rods to be manufactured from: (1) ASTM A307-80, Grade A, (2) AISI 4140, 4142, 4145, 4140H, 4142H, or 4145H meeting the requirements of ASTM A-193, Grade 8-7, (3) AISI 304 stainless steel which meets the requirements of ASTM F593-80. Anchor rods shall have rolled threads. The adhesive capsules used shall contain a vinylester resin as supplied in the Hilti HEA adhesive capsules.

2.2 FABRICATION

- A. General: Comply with AISC "Specifications" and final Shop Drawings. Mark and match-mark units for field assembly.
- B. Connections: As shown on final Shop Drawings. Use High strength bolts for field connections, except as otherwise indicated.
 - 1. Comply with AWS code for procedures, appearance and quality of welds.
 - 2. All field connections to be made with 3/4" diameter H.S. Bearing bolts or equivalent welds. Shop connections to be welded (E70XX).
- C. Floor Deck: Provide deck configuration complying with SDI "Basic Design Specifications" as shown on Drawings.
- E. Provisions for Other Work: Fabricate Structural steel members to provide holes for securing other work and for passage or other work through steel framing as indicated.

PART 3: EXECUTION

3.1 ERECTION

- A. Comply with AISC Code and Specifications, and maintain work in safe and stable condition during erection. Provide temporary bracing and shoring as required; remove when final connections placed.
- B. Set base plates on cleaned bearing surfaces, using wedges or other adjustments as required. Solidly pack open spaces with commercial non-

shrink grout. When shown on drawings, use leveling plates and non-shrink grout.

- C. Splice members only where shown on final Shop Drawings.
- D. Verify exact size and location of all floor openings with Mechanical Contractor. Verify all dimensions with Architectural Drawings and report and discrepancies to Architect for resolution prior to fabrication and/or installation.
- E. Adhesive anchors to be installed in holes drilled with Hilti carbide tipped drill bits. Anchors shall be installed per manufacturer's recommendations.
- F. Contractor shall provide shoring and temporary support for structural elements and metal decking to ensure that no distortion occurs when concrete is poured.

*** END OF STRUCTURAL METAL FRAMING ***

**SECTION 05313
STEEL FLOOR DECK**

PART 1: MATERIALS

1.1 PERFORMANCE REQUIREMENTS

- A. Design metal decking in accordance with SDI Design Manual for Composite Decks.
- B. Calculate to structural working stress design and maximum vertical deck deflection of $1/360$.
- C. Lateral deflection of diaphragm shall not exceed $1/500$ of the maximum height from rip-rap to under side of deck.
- D. Design deck and shear studs to resist a maximum shear strength of 11.5 KIPS.

1.2 SUBMITTALS

- A. Submit Shop Drawings: Indicate decking plan, support locations, projections, openings and reinforcement, pertinent details, and accessories. Indicate temporary shoring of decking where required.
- B. Product Data: Provide deck profile characteristics and dimensions, structural properties, and finishes.
- C. Manufacturer's Installation Instructions: Indicate specific installation sequence, and special instructions.

1.3 QUALIFICATIONS

- A. Installer: Company specializing in performing the work of this Section with minimum five years documented experience and approved by manufacturer.
- B. Design deck layout, spans, fastening, and joints, under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the State of Michigan.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Cut plastic wrap to encourage ventilation.
- B. Separate sheets and store decking on dry wood sleepers, slope for positive drainage.

1.5 FIELD MEASUREMENTS

- A. Verify that field measurements are as shown on Shop Drawings.

PART 2: PRODUCTS

2.1 MANUFACTURERS

- A. Vulcraft
- B. Epic
- C. Wheeling
- D. Bowman
- E. Substitutions: Under provisions of Sections 01600 and 01600A.

2.2 MATERIALS

- A. Sheet Steel: ASTM A446, Grade B Structural Quality; with G90 galvanized coating conforming to ASTM A525.
- B. Sheet Steel: ASTM A611, Grade C, Unfinished, minimum yield of 33KSI.
- C. Bearing Plates, and Angles: ASTM A36 steel, unfinished per Section 05100.
- D. Stud Shear Connectors: ASTM A108 steel, Grade 1015, forged steel, headed, and uncoated.
- E. Welding Materials: AWS D1.1.
- F. Touch-Up Primer: Galvanic Paint type.

2.3 ACCESSORIES

- A. Flute Closures: Closed cell foam rubber, one inch thick; profiled to fit tight to and under the decking at partitions.

2.4 FABRICATION

- A. Ribbed Metal Deck: Sheet steel, galvanized (at fireproofed areas, and primed elsewhere):
 - 1. Span Design: Multiple
 - 2. Minimum Metal Thickness
(Excluding Finish):

- | | | |
|----|---------------------|--|
| 3. | Height of Rib: | 20 Gage |
| 4. | Formed Sheet Width: | 2 inches |
| 5. | Side Joints: | Lapped |
| 6. | Flute Sides: | Diagonally ribbed for improved concrete bond |

- B. Metal Closure Strips, Wet Concrete Stops, Cover Plates, and Related Accessories: 20 gage galvanized sheet steel; of profile and size as indicated.

PART 3: EXECUTION

3.1 EXAMINATION

- A. Verify that field conditions are acceptable and are ready to receive work.
- B. Beginning of installation means installer accepts existing conditions.

3.2 INSTALLATION

- A. Erect metal decking in accordance with SDI Design Manual for Composite Decks, as well as manufacturer's instructions.
- B. Bear decking on steel supports with 1-1/2 inch minimum bearing. Align and level.
- C. To contain wet concrete, install stops at floor edge upturned to top surface of slab. provide stops of sufficient strength to remain stationary, where used as a top screed, without distortion. Coordinate with Steel Angle requirements at slab perimeter per Drawings.
- D. Weld stud shear connectors through steel deck to structural members below. Coordinate with Drawings for locations and spacing of studs.
- E. Immediately after welding deck and other metal components in position, coat welds, burned areas, and damaged surface coating, with touch-up prime paint to match originally supplied finish.

*** END OF STEEL FLOOR DECK ***

**SECTION 05500
METAL FABRICATIONS**

PART 1: GENERAL

1.1 DESCRIPTION

- A. In general, the work under this Section includes the following items:
 - 1. Guardrails/Handrails
 - 2. Structural Steel
 - 3. Chain Link Fence

1.2 RELATED WORK

- A. Cast in Place Concrete, Section 03300
- B. Painting, Section 09900

1.3 REFERENCES

- A. ASTM 123 Specification for Zinc Coatings, ASTM 153 on Iron and Steel Products.
- B. ASTM 153 Specifications for Zinc Coatings on Iron and Steel Hardware.
- C. American Welding Society.

1.4 SUBMITTALS

- A. Submit the following:
 - 1. Shop Drawings showing plans, elevations and details of design and all details of construction including thickness of metals, installation of fastening, jointing and methods of anchorage.
 - 2. Contractors recommended installation procedures: The manufacturer's recommended installation procedures, when approved by the Architect, will become the basis for inspecting and accepting or rejecting actual installation procedures used on the

work.

3. Samples as required by the Architect.

PART 2: MATERIALS

2.1 HANDRAILS

- A. The pipe to be used on construction of the handrails shown **on the** Drawings shall be the sizes called for, Schedule 40 hot dipped **galvanized** steel pipe, ASTM A-53 or as required to comply with the **BOCA code** loading requirements.
- B. Fabricate all pipe to the lines and radii as called for on the Drawings.
- C. Prime paint in shop conforming to Federal Specifications TT-P-645 or **TT-P-615**, Type II. See Part 3, 3.7.
- D. Non-shrink, non-ferrous grout: CE-CRD C588.
- E. Post cover flanges hot dipped galvanized.

2.2 CHAIN LINK FENCING

- A. Galvanized steel fencing shall be vinyl coat hot-dipped zinc **coated** commercial quality steel as manufactured Semmerling, Brighton, **Michigan** (313) 227-3036 or approved equal.
 1. Pipe: ASTM A-120
 2. Hardware: ASTM A-153
- B. Vinyl-coating shall be fusion bonded vinyl, black in color.
- C. Dimensions shall be as shown on Drawings, with weight and **diameter**, framing rails, braces and gates per approved shop drawings as recommended by manufacturer. Footing shall be 12" diameter and **3'-6"** depth for all line and terminal posts. All posts shall extend full **depth** of footing.
- D. Fabric Sizes: Perimeter: 2" mesh, 9 gauge, ASTM, A-392 Class 1.

2.3 MISCELLANEOUS STEEL

- A. All miscellaneous steel angles, beams, channels, etc. to be embedded in the concrete work shall be hot dipped galvanized unless otherwise noted.
- B. Other Materials: All other materials not specifically described but required for a complete and proper installation of the work of this Section, shall be selected by the Contractor, Subject to the approval of the Architect.

2.4 STRUCTURAL STEEL

- A. All structural steel shall conform to the latest ASTM Serial Designation A36; or ASTM A572, GR50; Steel tubing to be ASTM A500; Steel Pipe A-53; Grade B.
- B. Steel design, fabrication and erection to be in accordance with the latest AISC Specifications.
- C. All field connections to be made with min. 3/4" dia. H.S. bolts, or welds. Shop connections to be welded (E70XX).
- D. All connections shall be shop weld in accordance with the AWS Specifications, E70XX electrodes and field bolted with A325 or A490 bolts. All bolts are to be installed in accordance with the latest specifications for "Structural Joints using ASTM A325 or A490 bolts."
- E. Steel design fabrications and erection to be in accordance with the latest AISC Specification. Design connection for full strength of member for span per AISC beam load tables.
- F. All welding shall be by AWS qualified welders.

PART 3: EXECUTION

3.1 COORDINATION

- A. Coordinate handrail work with concrete work to assure proper sleeve size and location.

3.2 FABRICATION

- A. The railings shall be fabricated by a metal shop skilled and experienced in the fabrication of metal work.
- B. Rounded corners and arc curve shall be made by bending. Fittings shall

not be allowed.

- C. Fastenings should be as detailed and all members shall be true and free from twist and bends.
- D. Finished surfaces shall be ground smooth and welded joints shall be free from jagged edges.
- E. Ease exposed edges to a radius of approximately 1/32 inch unless otherwise noted.

3.3 INSTALLATION

- A. Installation shall be where shown on drawings and in accordance with approved Shop Drawings.
 - 1. Handrails shall be where shown on Drawings and in accordance with approved Shop Drawings. Radius must be smooth and even.
 - 2. Immediately prior to placing grout for handrailing, concrete and metal surfaces which are to be in contact with grout shall be inspected to insure that they are clean and free of oil, grease, rust, or dirt.
 - 3. Set flanges with clear silicone.

3.4 CLEANING

- A. Protect and maintain all work free of smears, scratches, and abrasions and defects until work is accepted by Architect and owner.

*** END OF METAL FABRICATIONS ***

**SECTION 09900
PAINTING**

PART 1: GENERAL

1.1 DESCRIPTION

- A. In general, the work under this Section includes, but is not limited to the painting of the following:
 - 1. Handrails and miscellaneous steel
 - 2. Structural Steel

1.2 RELATED WORK

- A. Metal Fabrications, Section 05500.
- B. Structural Metal Decking, Section 05100.
- C. Work Not Included:
 - 1. Unless otherwise indicated, painting is not required on surfaces in concealed areas and inaccessible areas such as furred spaces, foundation spaces, electrical conduits, pipe spaces and duct shafts.
 - 2. Metal surfaces of anodized aluminum, stainless steel, chromium plate, copper, bronze, and similar finished materials will not here require painting under this Section except as may be specified herein.
 - 3. Do not paint and moving parts of operating units; mechanical or electrical parts such as valve operators, linkages, sinkages, sensing devices and motor shafts, unless otherwise indicated.
 - 4. Do not paint over any required labels or equipment identification, performance rating, name or nomenclature plates.
 - 5. Do not paint structural steel members or portions of members, embedded in concrete or mortar, and contact areas to be welded.

1.3 QUALITY ASSURANCE

- A. Products used in the work of this Section shall be produced by manufacturers regularly engaged in manufacturer of similar items with a history of successful production acceptable to the Architect.

- B. Provide at least one person who shall be present at all times during execution of the work of this Section, who shall be thoroughly familiar with the specified requirements and the materials and methods needed for their execution, and who shall direct all work performed under this Section.
- C. In acceptance or rejection of the work of this Section, the Architect will make no allowance for lack of skill on the part of workers.
- D. Provide finish coats which are compatible with the prime coats used.
- E. Review other Sections of these specifications as required, verifying the prime coats to be used and assuring compatibility of the total coating system for the various substrata.
- F. Upon request, furnish information on the characteristics of the specific finish materials to ensure that compatible prime coats are used.
- G. Provide barrier coats over noncompatible primers, or remove the primer and reprime as required.
- H. Notify the Architect in writing of anticipated problems in using the specified coating systems over prime coating supplied under other Sections.

1.4 SUBMITTALS

- A. In compliance with Submittals, Section 01300, submit the following:
 - 1. Complete color schedule of all items proposed to be painted under this Section.
 - 2. Manufacturer specifications and other data required to demonstrate compliance with the specified requirements.
 - 3. Submit shop and field prime and paint application methods.
 - 4. For information only, submit two copies of manufacturer's specifications, including paint analysis and application.
 - 5. Sample color sector for manufacturer of proposed paint to be used for each type and surface application.
 - 6. Once actual colors are selected by the Architect:
 - a. Provide two samples of each color and each gloss for each material on which the finish is specified to be applied.

- b. Except as otherwise directed by the Architect, samples shall be approximately 12 inches square.
- 7. Revise and resubmit each sample as required until the Architect's approval of gloss, color and texture is achieved.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver all materials to the job site in original, new and unopened containers bearing the manufacturer's name and label and other general information.
- B. Provide proper storage to prevent damage to, and deterioration of, paint materials.
- C. Use all means necessary to protect the materials of this Section before, during and after installation and to protect the work and materials of all other trades.
- D. In the event of damage, immediately make all repairs and replacements necessary to the approval of the Architect and at no additional cost to the Owner.

1.6 JOB CONDITIONS

- A. Do not apply solvent thinned paints when the temperature of surfaces to be painted and the surrounding air temperature are below 45 degrees F., unless otherwise permitted by the manufacturer's printed instructions as approved by the Architect.
- B. Do not apply any paint in snow, rain, fog or mist; or when the relative humidity exceeds 85 percent or to damp or wet surfaces; unless otherwise permitted by the manufacturer's printed instructions as approved by the Architect. Applications may be continued during inclement weather within the temperature limits specified by the paint manufacturer during application and drying periods.

PART 2: PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. Design is based on use of paint products manufactured by Tnemec Chroma Colors and the materials of that manufacturer are named in the Painting Schedule. Equal products or other manufacturer's approved in advance by the Architect, may be substituted in accordance with the provisions of Section 01600. Tnemec paints available from Michigan Protective Coating

Consultants, Inc. Contact: Brad Brown (313) 538-7878.

2.2 MATERIALS

- A. The Architect will select colors to be used in various locations of application and will be the sole judge of acceptability of various glosses obtained from the materials proposed to be used in the work.
- B. Provide paints of durable and washable quality. Do not use paint materials which will not withstand normal washing as required to remove pencil marks, ink, ordinary soil, and similar material without showing discoloration, loss of gloss, staining or other damage.
- C. Thinners, cleaners, surface etchers and other miscellaneous materials necessary for application shall be as recommended by manufacturer, submitted by Contractor and approved by Architect.
- D. Provide the best quality grade of the various types of coatings as regularly manufactured by paint materials manufacturers approved by the Architect. Materials not displaying the manufacturers's identification as a standard best-grade product will not be acceptable.
- E. Provide undercoat paint primer produced by the same manufacturer as the finish coat see, see painting schedule, Item 3.7, this section. Use only the thinners recommended by the paint manufacturer, and use only to the recommended limits. Insofar as practicable, use undercoat, finish coat and thinner material as parts of a unified system of paint finish. Primers used shall be suitable for the intended surface and finish paint materials.

PART 3: EXECUTION

3.1 SHOP PAINTING

- A. Do not paint surfaces which are to be welded or high-strength bolted with friction-type connections.
- B. Apply both coats of primer and paint to surfaces which are inaccessible after assembly or erection. Change color of second coat to distinguish it from the first.
- C. Surface preparation: Remove rust, mill scale, and splatter, slag and flux deposits by sand blasting in accordance with Steel Structures Painting Council Specification SSPC SP-6 commercial sandblast preparation.

- D. Shop prime, with two coat primer, all structural steel work, handrails, miscellaneous steel and hardware. Prime embedded steel which is partially exposed on all exposed portions and the initial 2 inches of embedded areas only.
- E. Painting: Immediately after surface preparation apply primer in accordance with the manufacturer's recommendations and at a rate to achieve a dry film thickness between 3.0 mils and 3.5 mils. Cover joints, corners, edges and all exposed surfaces.

3.2 SURFACE CONDITIONS

- A. Prior to finishing of the work of this Section, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this painting may be completed in strict accordance with the original design and with the manufacturer's recommendations as approved by the Architect.
- B. Do not proceed in the areas of discrepancy until all such discrepancies have been fully resolved.

3.3 MATERIALS PREPARATION

- A. Mix and prepare painting materials in strict accordance with the manufacturer's recommendations as approved by the Architect.
- B. Store materials not in actual use in tightly covered containers.
- C. Maintain containers used in storage, mixing and application of paint in a clean condition, free from foreign material and residue.
- D. Stir all materials before application to produce a mixture of uniform density, and as required during the application of materials. Do not stir into the material any film which may form on the surface. Remove the film and, if necessary, strain the material before using.

3.4 SURFACE PREPARATION

- A. Perform all preparation and cleaning procedures in strict accordance with the paint manufacturer's recommendations as approved by the Architect.
- B. Clean each surface existing and new to be painted prior to applying paint or surface treatment.
- C. Removal oil and grease with clean cloths and cleaning solvents of low

toxicity and a flash point in excess of 38 degrees C, 100 degrees F, prior to start of mechanical cleaning.

- D. Schedule the cleaning and painting so that dust and other contaminants from the cleaning process will not fall onto wet newly painted surfaces.
- E. Thoroughly clean all surfaces until they are completely free from dirt, oil and grease.
- F. On galvanized surfaces, use solvent for the initial cleaning and then treat the surface thoroughly with phosphoric acid etch. Remove all etching solution before proceeding, allow to dry thoroughly before application of primer and finish paint.

3.5 PRIME AND PAINT APPLICATION

A. General:

- 1. Slightly vary the color of succeeding coats. Do not apply additional coats until the complete coat has been inspected and approved coats of paint will be considered in determining the number of coats applied.
- 2. Perform surface preparation and apply both coats of primer to all surfaces of steel and hardware installed in field or surface damaged during installation. Clean field welds, bolted connections and abraded areas, apply same type paint as used in shop.
- 3. Sand and dust between primer and painting coats to remove all defects visible to the unaided eye from a distance of five feet.
- 4. Final coat shall be applied in the field to achieve a dry film thickness between 3.0 mils and 3.5 mils.

B. Protection:

- 1. Prior to commencement of painting operations, protect all concrete and other existing features from paint over-spray by whatever means necessary and as approved by the Architect.

C. Drying:

- 1. Allow sufficient drying time between coats. Modify the period as recommended by the material manufacturer to suit adverse weather conditions.

2. Oil-base and oleo-reinuous solvent type paints shall be considered dry for recoating when the paint feels firm, does not deform or feel sticky under moderate pressure of the thumb, and the application of another coat of paint does not cause lifting or loss of adhesion of the undercoat.
3. Brush out and work all brush coats onto the surface in an even film. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness and other surface imperfections will not be acceptable.

3.6 EXTRA STOCK

- A. Upon completion of the work, deliver to the Owner, an extra stock equaling ten percent of each color, type and gloss of paint used on the work.
- B. Each material shall be in the original container and identified with the manufacturer's label, color number, manufactured date and application instructions.

3.7 PAINTING SCHEDULE

- A. The color indicated below shall match the indicated Tnemec, Chormacolors and shall be used for all exposed metal furnishings, fasteners, etc. unless otherwise noted.

Primer for handrails, Miscellaneous Steel and Structural Steel: Tnemec, 66-1211, Epoxoline Primer.

Finish Coat for handrails and Miscellaneous Steel: Tnemec Endurashield, Series 73 AX 22 Gulf Green High-Build Acrylic Polyurethane Enamel.

Finish coat for Structural Steel: Tnemec, Series 66 High-Build Epoxoline, color to be specified by Architect.

- B. The Contractor shall touch-up all paint work, as required, once installed.

*** END OF PAINTING ***

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